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PRODUCING REFINING MARKETING

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PRODUCING REFINING MARKETING

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Mid-Continent Situation Is Improving

Highest daily average estimated production in 1926, week ended Dec. 25, 2,385,139 bbls. Lowest in 1926, January 30, 1,915,960 bbls.

Operators Hopeful Conditions Will Be Better in Late Summer. Producers Hold Crude for Higher Prices

By Andrew M. Rowley

Highest daily average estimated light oil production in 1926, week ended Dec. 25, 1,797,349 bbls. Lowest in 1926, Jan. 30, 1,371,600 bbls.

The crude oil situation in the Mid-Continent area, regarded as the barometer of the petroleum industry, is beginning to show some improvement with prospects that a definite clearing of the overproduction condition will start within the next month. Crude oil in storage in Oklahoma and Kansas has increased only 15,000,000 barrels since the first of this year despite the vast increase in production and there is little free oil available to purchasers and pipe line companies. Even in the Seminole area in Oklahoma, regarded as the chief offender in overproduction, buyers have been unable to purchase crude oil in storage there. Owners of this oil are confident the price structure will be adjusted upward during the summer and are holding their crude for higher prices.

The Seal Beach Field in California registered a substantial increase during the past week due to the completion of an exceptionally large number of wells and the recompletion of former producers which had gone dead during the past two weeks. At least 10 more wells are due for completion this week and this, together with the recent find of the Pan American revealing a 150-foot sand on top of the Alamitos structure instead of 70 feet heretofore believed as the depth, indicates the field may establish a new peak, possibly the coming week. The peak of the Seminole area in Oklahoma is still expected to be somewhere between 380,000 and 400,000 barrels and may be reached during the next three or four weeks.

In figuring on the future output of the Seminole area, the action of the Seminole City Pool proper is interesting. For six or seven weeks the average decline in that pool was 15,000 barrels per week. A week ago the decline dropped to 4,000 barrels and indications are the rate of drop for this week will average about the same. Consequently, it seems as if the production curve there is beginning to flatten.

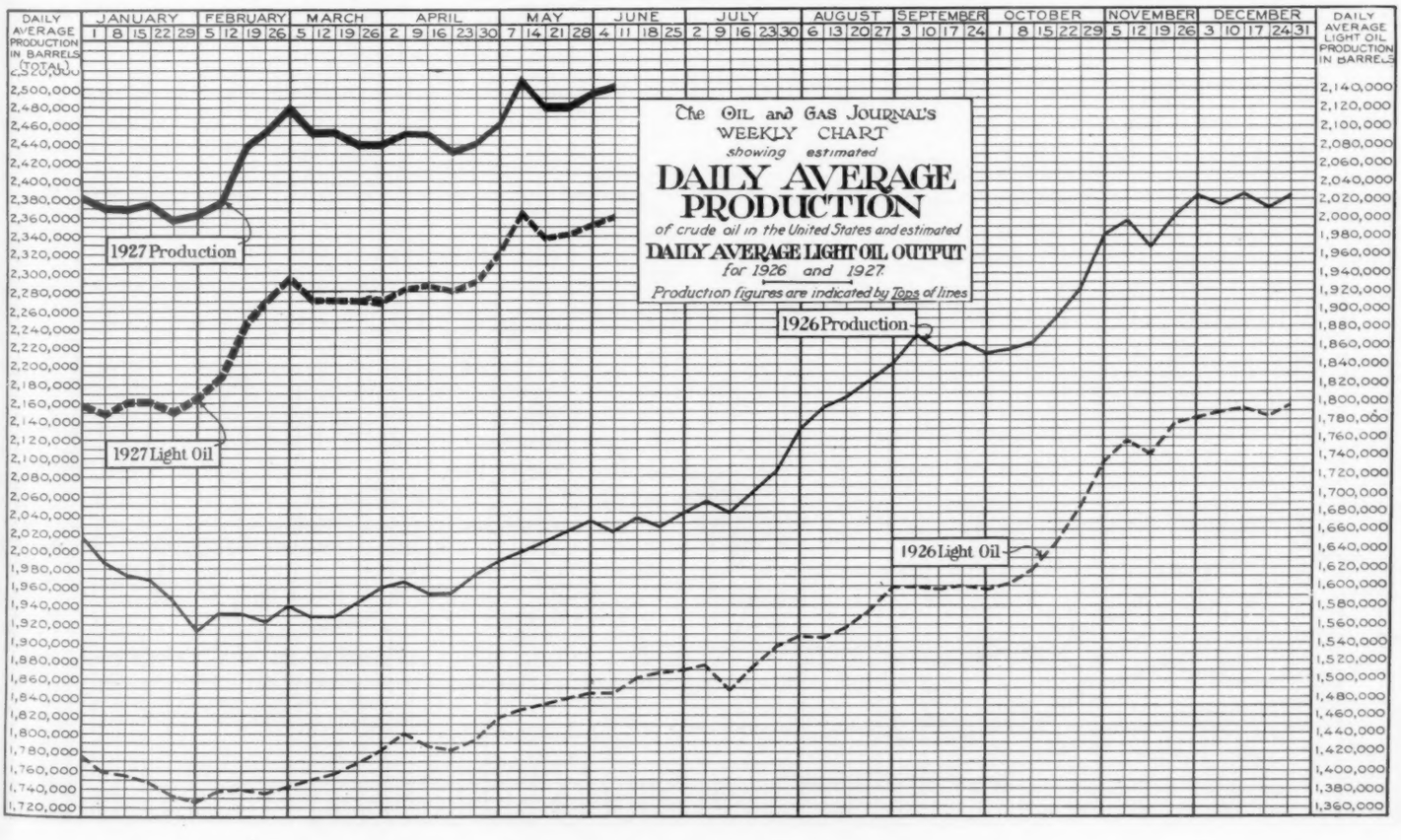
Good motoring weather throughout the country is the big factor in the situation now. Material gains in consumption may be expected and by the time consumption reaches its peak for the year, production of crude should be on the downward trend.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended June 4, and a comparison with the previous week follows:

	June 4		May 28	
Oklahoma—	Light	Heavy	Light	Heavy
Tonkawa	21,935	.....	22,715	.....
Burbank	45,490	.....	44,470	.....
Other Osage Fields	32,915	.....	33,610	.....
Cushing and Shamrock	21,405	.....	21,485	.....
Bristow and Eastern Bristow	27,135	.....	27,020	.....
Cromwell	12,640	.....	12,685	.....
Garber	14,260	.....	14,790	.....
Blackwell-Braman	11,915	.....	12,755	.....
Seminole	360,355	.....	356,895	.....
Wewoka	19,030	.....	19,030	.....
Northern Miscellaneous	115,710	.....	114,635	.....
Southern Fields	68,765	.....	67,455	.....
Total Oklahoma	751,555	.....	747,545	.....
North Louisiana	39,445	8,050	39,020	8,135
Arkansas	24,370	88,620	24,030	89,695
North Central Texas	167,150	.....	170,395	.....
West Texas	115,723	.....	116,350	.....
Texas Panhandle	134,640	.....	133,935	.....
East Central Texas	35,220	.....	35,940	.....
Kansas	113,880	.....	115,210	.....
Total Mid-Continent Area	1,381,983	96,670	1,382,425	97,830
Gulf Coast	.....	154,585	.....	157,885
Southwest Texas	.....	35,065	.....	35,230
Eastern	113,000	.....	114,000	.....
Rocky Mountain Area	90,510	.....	87,200	.....
California—				
Santa Fe Springs	42,000	.....	43,000	.....
Long Beach	93,000	.....	93,000	.....
Torrance	6,000	17,500	6,000	17,500
Huntington Beach	75,500	.....	75,500	.....
Dominguez	16,500	.....	16,250	.....
Rosecrans	10,000	.....	10,250	.....
Inglewood	24,000	12,000	24,000	12,500
Ventura Avenue	38,500	.....	39,000	.....
Seal Beach	54,000	.....	43,500	.....
Remainder of State	57,000	188,000	57,000	187,000
Total California	416,500	217,500	407,500	217,000
Total United States	2,001,993	503,820	1,991,125	507,945
Grand Total	2,505,813		2,499,070	

Total Increase, 6,743 Bbls.; Light Oil Increase, 10,868 Bbls.



Small Advance in U. S. Motor Gasoline

Sellers Able to Maintain Part of First of Month Increase. Fuel Oils and Kerosene Weaker

By C. O. Willson

The past week in the Oklahoma (Group 3) refined market was marked by the partial failure of a large number of sellers to bring about a general advance in refinery gasolines together with a continuance of the decline in natural gasolines. Among the other products weakness was apparent in both kerosenes and fuel oils for June shipment despite the fact that the distillate market was more active. Wax prices also were advanced by the few Oklahoma concerns manufacturing the product.

The opening of the new month last week was accompanied by an effort on the part of several larger refiners in Oklahoma to establish a low price of 7 cents for 58-60 U. S. Motor gasoline. This price represented an advance of one-quarter cent to most of the refiners. The advance, however, failed to receive the buying support expected by the sellers and before the end of the last week it was apparent that the general market could not be established at that price level. Scattered sales the first of this week were reported at the 7-cent figure but a majority of the refiners found it necessary to return to the 6¾-cent price if they wanted to keep their plant output moving.

The attempt to establish a 7-cent market, although it has failed up to this writing, did bring about a slight advance in the prices quoted by those refiners who have been selling one-quarter cent under the price levels established by the larger companies. When the latter companies went to 7 cents, several other refiners advanced from 6½ to 6¾ cents. These refiners generally have not returned to the 6½-cent price and the low on the U. S. Motor market on Tuesday in Oklahoma was 6⅝ cents.

Several reasons have been advanced for the failure to establish a 7-cent market in Oklahoma. Since the first of the month the discovery has been made that a few companies the latter part of May had sold U. S. Motor gasoline for June delivery at prices ranging from 6⅜ to 6⅝ cents.

It is impossible to determine the quantity of this material, part of which came from refineries outside of Oklahoma. When refiners attempted to sell at 7 cents they found this gasoline in the hands of marketing concerns being quoted the jobbing trade at least one-quarter cent under their price. These low quotations coupled with the fact that weather conditions in the Middle West still are not conducive to maximum gasoline consumption brought about a situation in which jobbers generally did not accept the 7-cent price.

In the opinion of many market observers the refinery gasoline market is now probably "pegged" at present quotations over the balance of the month. Heavy export or coastwise buying could change this situation but this development is not considered probable at this time.

Government Reports

Considerable interest was manifested among the trade during the past week in the government report of refinery operations for April. This report is now six weeks old but throws some light on the present statistical situation. The full report for April with graphs will be found elsewhere in this issue. The high points of the report as it pertains to the Mid-Continent Field are summarized in the accompanying table.

The table shows the comparative situ-

(Continued on Page 139)

REFINED MARKET BAROMETER

Minor advances in gasoline tank car prices were effective in several refining areas east of the Rocky Mountains during the past week. Export gasoline in cases advanced an additional one-half cent in the East. Many sellers were having difficulty maintaining the advances in the domestic gasoline market due to the buying resistance to the higher prices. On the West Coast weakness was apparent in both domestic and export gasolines, the sales for coastwise and export movement being made at exceptionally low prices. The reductions made in bunker oils and gas oils the previous week were held responsible for the weakness apparent in fuel oils and gas oils at interior points during the past few days. Spot sales of these products generally reflected this weakness with slightly lower prices. The kerosene demand was slower in the Mid-Continent, with prices lower when any changes were made. Distillates suitable for furnace oils were active in practically all refining areas both for immediate and future delivery. Natural gasolines were reported sluggish everywhere, accompanied by a further price slump in the market east of California. Keen competition continues to characterize the sale of lubricants, especially in the industrial trade. Several manufacturers in the Mid-Continent and Pennsylvania areas advanced their quotations on all grades of wax.

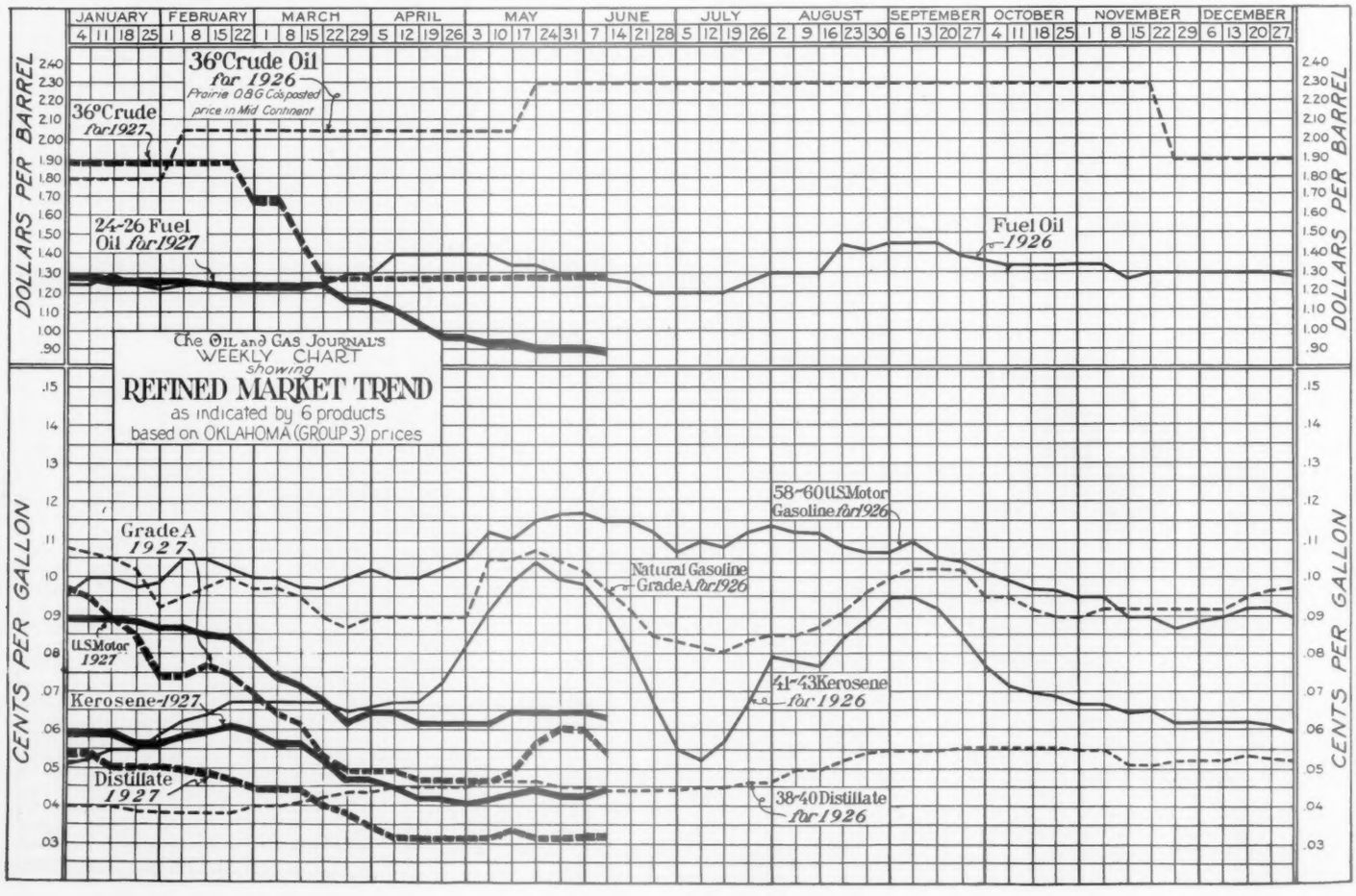
Mid-Continent—A majority of refiners advanced their quotations one-eighth to one-quarter of a cent in domestic grades of gasoline, with no general changes in the higher gravity grades. Natural gasoline prices slumped in all areas. Kerosenes not so active and prices lowered when any changes were made. Distillates in good demand. Fuel oils and gas oils slightly lower in Oklahoma and North Texas. Wax prices advanced in Oklahoma. Other products unchanged.

Atlantic Seaboard—Gasoline prices in tank car lots advanced one-half cent. General weakness apparent from continued scattered reductions in tank wagon prices. Bunker and gas oil prices unchanged. Export gasoline in cases advanced one-half cent. Lubs firm. Wax weak.

Pennsylvania—Gasolines and wax most active products. Fuel oils and kerosene weaker. Good demand for bright stocks.

Chicago—Gasoline demand not as active as expected, although refiners have been able to maintain prices higher than previous week. Kerosene not active. Good demand for distillates. No change in fuel oil and gas oil.

California—Market generally weak. Both export and domestic gasoline prices lower. Concessions also reported in natural gasolines.



Exporters Facing Stiff Competition

Refinery Growth Abroad, Currency Changes and Russian Products Factors. Drop in Kerosene. Other Shipments Increasing

By N. O. Fanning
New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 6.—Never before in the recent history of the oil export business have American exporters encountered such stiff opposition abroad as so far during during 1927. This is especially so in Europe, but is equally true of other quarters of the globe in which American oil products have been dominant.

It seems that many factors have combined to create this situation. Among those outstanding are :(1) Foreign propaganda against American products; (2) Russian competition in Europe and the Near East; (3) development by foreign and American companies of new crude oil sources outside the United States, and (4) unsettled conditions in China. Minor unfavorable factors include the rise in value of the French currency.

Of course there are many favorable developments in the export situation, but it appears that this year up to date the preponderance of developments has been unfavorable. It is expected, however, that the remainder of the year will tell a different story.

The export statistics for the first three months of 1927 show a steady increase in shipment of all important oil products except kerosene. This is favorable; but oil exporters had hoped for a much bigger rate of increase, especially in shipments of gasoline.

As to kerosene the situation has been especially bad this year. Shipments are running almost 20 per cent below those of a year ago. With regard to this oil exporters say the foreign kerosene market has been unfavorably affected by inroads of Russian, Rumanian and Polish kerosene in the European market, and smaller consumption in China as a result of political disorders there.

Tables of Prices.

The following table shows prices of crude oil and refined products in the principal exporting and importing countries, as of April 1, 1927 and April 1, 1926, with the American equivalent for April 1, 1927, prices. All prices are wholesale, or in bulk, unless otherwise noted:

GASOLINE

	United States (C. per Gal.)		Rumania (Lei per Kgr.)		Poland Dlrs. per 100 Kgr.)
Exports—	64-66	58-60	64-66	58-60	63
April 1, 1927	8 1/8	7 5/8	8.25	6.50	6.00
(U. S. Equiv. C. per Gal.)	....	....	13	11	16
April 1, 1926	14 1/4	14 1/4	15.25	9.80	7.50

Import	France (Fr. per 100 Kgr.)	England (Sh. per Imp. Gal.)		Italy (a) (Lire per 100 Kgr.)	Germany (b) (Marks per 100 Kgr.)	
		Light (Cases)	Heavy (Bulk)		Light	Heavy
April 1, 1927	300	1/6	0/10 1/2	365 (c)	42.50	38.50
(U. S. Equiv. C. per Gal.)	36	32	18	40	26 1/2	23
April 1, 1926	261	1/9	1/3	.....	43.00	39.00

KEROSENE

	United States (C. per Gal.)		Rumania (Lei per Kgr.)	Poland (Dlrs. per 100 Kgr.)
Export—	Pr. Wh.	W. Wh.	.....	.....
April 1, 1927	6	7 3/4	3.45	3.05
(U. S. Equiv. C. per Gal.)	..	....	6	8 1/2
April 1, 1926	7 1/2	8 1/2	4.45	2.40

Import—	France (Fr. per 5 Lit.)	England (Pence per Imp. Gal.)		Germany (a) (Marks per 100 Kgr.)	Belgium (Fr. per 100 Kgr.)
	Retail	Wholesale		Wholesale	Tankwagon
	.....	W. Wh.	P. Wh.	.....	.....
April 1, 1927	11.75	10	7 1/2	28.50	195
(U. S. Equiv. C. per Gal.)	26	17	12	20	17
April 1, 1926	9.15	10	9	27.00	93

LUBRICATING OIL

	United States (C. per Gal.)		England (L per Am. Ton.)		Germany (d) (Dlrs. per 100 Kgr.)		France (b) (Fr. per 100 Kgr.	
	Red	Spindle	Pale	Red	Spindle 2.1 Eng.	Red 4.5 Eng.	Spindle 29 Be.	Red 4.5-6.7 Eng.
April 1, 1927	11	9 1/4	15/10	15/15	3.80	5.35	330	430
(Equiv. U. S. C. per Gal.)	...	...	16	30	13	18	....	60
April 1, 1926	13	10	17/	17/	3.80	5.35	165	245

GAS AND FUEL OIL

Export—	United States (C. per Gal.)		Mexico (S.U. Dlrs. per bbl.)		Rumania (Lei per Kgr.)
	Gas Oil 32 Be.	Bunker oil (e) 11-16 Be.	Bunker 14-16Be	Gas oil	Fuel oil
April 1, 1927	4 7/8	1.65	1.60	3.10	2 30
(Equiv. U. S. $ per bbl.)	2.15	..	....	2.50	2.00
April 1, 1926	5	1.60	1.45	3.30	2.20

Import—	England (Sh. per ton)	Italy (Lire per Ton)	Germany (d) (Marks per 100 Kgr.)	France (Sh. per Ton)
	Fuel oil	Fuel oil	Gas oil	Fuel oil
April 1, 1927	90	470	9.70	8 7/6
(Equiv. U. S. $ per bbl.)	3.02	2.81	3.13	3.00
April 1, 1926	82	....	10.08	82/6

CRUDE OIL

Price at Well—	United States ($ per Bbl.)		Rumania (Lei per 10 T.)	Poland ($ per 10 T.)	Mexico (f) ($ per bbl.)
	Pa.	Mid-C.			
April 1, 1927	3.15	1.38	22.00	242	1.40
(Equiv. U. S. $ per bbl.)	....	....	1.90	3.10	....
April 1, 1926	3.65	1.80	31.00	180	1.17

NOTE: (a) Without emballage. (b) Including duty. (c) February 19, 1927. (d) Excluding duty. (e) Dollars per barrel. (f) F.o.b. Tampico.

First Quarter Exports

For purposes of comparison, exports of the principal petroleum products from the United States for the first quarter of 1927 and 1926 are given (United States Department of Commerce figures, in barrels):

	1927	1926	Change P. C.
Crude oil	3,567,000	3,197,000	Inc. 11.5%
Refined oil (total)	26,930,000	25,286,000	Inc. 6.5%
Gasoline	10,088,000	9,477,000	Inc. 6.4%
Kerosene	4,315,000	5,260,000	Dec. 17.9%
Gas and fuel oil	10,138,000	8,292,000	Inc. 22.6%
Lubricating oil	2,332,000	2,219,000	Inc. 5.0%

It is significant that fuel oil and crude show the biggest percentage of increase.

The gasoline markets abroad have presented a different picture. Consumption has increased rapidly in almost every part of the world. However, the American refiner has not benefited proportionately to the increase in consumption. This is ascribed to various factors, including Russian competition, and the intense efforts of European marketers to get away from American products as much as possible, through buying from other sources or developing substitutes made in Europe. In addition, the operation of refineries in Europe, including those in England, France, Spain, Italy and other countries, has enabled these countries to reduce imports to some extent. This has been encouraged as much as possible with the result that imports of crude oil have increased more rapidly than those of gasoline.

The markets for lubricating oil and gas and fuel oil have been affected by more or less the same factors that governed gasoline. However, consumption of Diesel oil has increased so rapidly in some countries that they have increased their imports from the United States more rapidly than they have of gasoline or lubricating oil.

The increase in crude oil production in many foreign fields have had some influence in keeping down American exports. Countries included in the group which are now supplying European markets on a larger scale than before are Colombia and Venezuela, Rumania, Russia, Poland, Persia and the Dutch East Indies. In many of these additional refining capacity has been built. In Poland, for instance, a substantial refining industry has been developed in the past few years, and is now at a stage where refined products can be exported to adjacent countries on a large scale. It is said that high grade lubricating oils are being made from Polish crude oil.

Rumanian refiners make an unusually high grade of gasoline and kerosene, and the growth in production of these products this year has placed them in a position to compete in Italy, France, and Germany, on an important scale, with other marketers.

Russian kerosene is not equal in quality to that supplied from many other sources, but stocks have been so large and prices so low that many outside companies have purchased it to supply markets in Europe and the Near East, treating it first to bring the quality up to standard requirements.

Price Factor Important

The matter of prices is one of paramount importance with regard to consumption and it also has much to do with the relative importance of various countries supplying oil products. Relative position of currencies has a great deal to do with prices of imported products.

For instance, in France, the price of American gasoline, expressed in francs, is higher to consumers than a year ago despite the fact that the price is materially lower in the United States. For instance 64-66 gasoline f. o. b. Gulf, United States, at 8⅛ cents April 1, was 6⅛ cents a gallon lower than a year before. (See table below). In France, American gasoline sells, wholesale, for 300 francs per 100 kilograms, against only 261 francs a year ago. In other words, while American consumers are paying less for American gasoline than a year ago, French consumers are paying more for the same material.

Since March 1, as all know, prices of oil products in the United States have suffered sharp declines. This is true of export prices as well as domestic. Prices in other producing areas have suffered proportionately. However, it is believed that on the present price basis, American refiners are much better able to compete in European markets than on the basis of prices existing January 1. Some are of the opinion that this price situation will be the determining factor in restoring to the American refiners their supremacy in volume of sales enjoyed in previous years.

DIESEL ENGINE MARKETS FOR OIL OPEN FIELD FOR BIG CONSUMPTION

By L. M. Fanning
New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

Development of Diesel engine markets for oil is being actively advocated by some of the prominent oil companies. It is recognized that the growth of the Diesel engine in industrial, marine and railroad use offers one of the most important future fields for essential petroleum utilization. A survey just completed by the Ingersoll-Rand Co. gives some striking figures on the performance of oil-electric locomotives. This represents the first survey of its kind, made from records on comparative performance of steam and oil-electric locomotives, and shows to the advantage of the oil-electric type a possible saving of $337,000,000 a year. The oil-electric operating cost for fuel, oil, water and other engine supplies was found to be only one-fourth that of steam.

The survey covers all oil-electric locomotives now in service on 12 Class 1 railroads. It includes locomotives of both the 60 and the 100-ton type, and covers 173,465 miles of active service.

The average operating cost of the oil-electric locomotives for fuel and lubricating oil, grease, water and other engine supplies was 4.8 cents a locomotive mile. This compares with an average cost for the same items for steam locomotives engaged in yard service on all Class 1 railroads of 22.8 cents.

Big Saving in Fuel

The average cost of operation of 60-ton oil-electric locomotives, covering 135,983 miles, was 4.4 cents a locomotive mile. For the 100-ton oil-electric the cost for fuel, oil, water and other engine supplies was 6.8 cents.

Fuel cost is the biggest single item, other than wages and repairs, in the operating cost of both steam and oil-electric locomotives, and in this item, the survey shows, the biggest saving in oil-electric over steam operation.

The average cost for fuel oil for the 60-ton oil-electric locomotive, with fuel oil figured on a cost basis of 5 cents a gallon, is 2.9 cents a locomotive mile. For the 100-ton oil-electric the fuel cost is 4.8 cents. This compares with an average fuel cost for all steam locomotives engaged in yard service on Class 1 railroads, on the basis of returns to the Interstate Commerce Commission for 1925, of 20.6 cents a locomotive mile.

For lubricating oil and grease the operating cost of the oil-electric locomotive is higher than for the steam locomotive. The 60-ton oil-electric costs an average

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California's Position in Crude Situation

Conditions in Mid-Continent Area of Vital Importance to Crude Oil Price Structure of the Pacific Coast

By W. E. Dunlap*
Chief Geologist, Richfield Oil Co.

One year ago I gave some figures on California production that reflected a distinctly favorable immediate future, and stated all indications at that time were decidedly rosy. At that time, in May, 1926, crude oil prices had just been increased. The new price had been posted on March 11, 1926. California's production was slightly over 600,000 bbls. per day, with a very slight monthly increase. We were then producing nearly one-third of the world's 2,000,000 bbls. per day. Compare that with now. During March, 1927, we were producing 640,000 bbls. per day. But instead of this being one-third of the United States' production, as our production was a year ago, it is now less than one-fourth. This is because the national production of crude oil is now very nearly 2,500,000 bbls. per day; in other words, an increase of 500,000 bbls. per day.

In addition to this favorable condition of production which existed a year ago, when the output was holding an even keel and offered no menace to markets, we were beginning to use refinable crude out of storage at a rate of over 1,000,000 bbls. per month, which we continued to do until about the first of 1927. This gave us a better position as to refining crude than we had enjoyed for several years.

Gasoline stocks were less than the previous year, 1925, by several hundred thousand barrels. It is true that fuel oil, which is ever the fly in the ointment, had increased by some 2,000,000 bbls. over the previous year 1925, but deliveries of gas and fuel oil, including heavy crude burned as fuel on the Pacific Coast in 1926, amounted to 148,000,000 bbls., an increase of 30,500,000 bbls. or 26 per cent over 1925. Domestic shipments increased to 106,300,000 bbls., or nearly 13 per cent. Foreign shipments of fuel oil increased to 41,500,000 bbls. in 1926, or an approximate gain of 68 per cent.

Condition Favorable Then

All in all, our economical status as to supply and demand was, as I told you in May, 1926, distinctly favorable. This condition of crude oil continued to be favorable up to the beginning of the present year, although one new field, the town lot section of Huntington Beach, had somewhat increased the production. But the decline of that field had already set in on the first of the year and things did not look so bad, especially as refinable crude oil was in the neighborhood of 12,000,000 bbls less than it had been at the beginning of the year previous. Fuel oil stocks had built up, as I said, over 2,000,000 bbls. during the year, but shipments of this commodity to foreign and domestic ports were heavier than they had ever been in previous years. Also several companies had begun cracking, and practically all the large companies had plans under way to crack. So fuel oil did not seem to constitute a serious menace, either.

I am giving you these figures to show you that although California has changed her position during the past year as to production in such a way that the trend has been rather favorable than otherwise and has justified to a large extent the outlook of a year ago, the situation nationally has been distinctly unfavorable. This condition has been due wholly to overproduction in Oklahoma, Texas and other Mid-Continent fields. So that a year ago our position did look rosy and it was not at that time seriously threatened by our Mid-Continent friends who are our competitors on the Atlantic Coast and in other world markets. However, since Mid-Continent production has broken all bounds, their oil has been reduced and reduced in price until tney can ship it through pipe lines direct and by pipe lines and tankers from the Gulf Coast to the Atlantic and to the world markets at a figure that nearly puts California crude and gasoline out of the running. So overwhelming in quantity has their business become that nearly all of the world's tanker fleets have been absorbed and marine rates have risen from about 80 cents per barrel to the Atlantic Coast from Los Angeles Harbor in August, 1926, to the present high figure at $1.25 to $1.50 per barrel to the same destination, and oil tankers are almost impossible to secure even at this prohibitive rate.

*Read before Taft, Calif., meeting of Chamber of Mines and Oil.

Mid-Continent Competition

As an illustration of what Mid-Continent competition has meant to California, we will take for example California oil before the new low price of April 1 was posted. Our 30 gravity oil from certain Los Angeles Basin oil fields was selling for $1.70 at the well. The tanker cost to the Atlantic Coast was $1.30 per barrel. This made it $3 oil on the Atlantic Coast. At the same time Mid-Continent oil of the same gravity was selling for $1.15 per barrel. Adding the pipe line transportation cost to the Atlantic of $1 per barrel we have $2.15 oil on the Atlantic Coast competing with our California oil. It is obvious that a spread of 85 cents between California and Mid-Continent oil rendered our competion out of the question. There were also some grades of Mid-Continent oil of the same gravity which were even lower than this, as there was also some oil in California fields that was lower. Handling charges from well to pipe line have not been included in this calculation, because they are about the same in either case. But even supposing a condition where California oil could be placed on the Atlantic Coast with a differential of only 25 cents in favor of the Mid-Continent, even that margin would not permit us to give them serious competition.

After giving you statistical reasons why the California price has been cut and nearly all companies have found it necessary to curtail, I can hear you say, "What about the recent gasoline war? Did not that have any effect on crude prices?" You are correct in calling attention to this, as perhaps it did have an influence on the crude price, but I think even without the gasoline war the schedule as posted on April 1 would not have been materially different, if at all. The effect of the gasoline war, in my opinion, merely hastened this price cut which was inevitable with the Mid-Continent going wild.

How Long Will It Last?

Now as to the quite obvious question that we are all asking ourselves: How long will this condition last? In other words, when will the oil producer be able to get a higher price for his oil and when will the oil companies be back developing and producing on the basis that

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All Co-operating in Seminole Plan

Increase in Output Was Expected. Efforts Directed Mainly Towards Preventing Opening of New Areas

By J. L. Dwyer

The greatest difficulty encountered in shutting down the outside wells in the area affected by the Seminole operators' agreement is that so many short term leases are in existence, according to Ray M. Collins, umpire in charge of the Seminole territory, who commented upon the general situation in the area included in the agreement signed by the companies having drilling operations in Seminole and Pottawatomie Counties.

"The companies having holdings in this region have co-operated in the fullest possible measure," said Mr. Collins," and much credit should be given them for their spirit. To discuss shutting in of a lease assumed to be worth $1,000,000 seemed to be a hopeless task, but right now there are three wells shut in which have great potentialities, and had any one of the three been drilled in, it would have started another Bowlegs excitement, and we should have been where we started.

"In the Earlsboro, and Bowlegs proper parts of the field, the companies have very definite ideas of the effects of drainage, and they are convinced that producing wells will have a tendency to drain the territory a half and even three-quarters of a mile away. Therefore, locations within this radius are usually staked and wells started, as the owners of the leases feel obliged to protect their rights, and to have a lease within this distance of production and not take advantage of it would be very hard."

Reason for Increase

Commenting upon the slight advance registered by the Seminole Field during the past week when production increased to a new peak of 373,000 bbls. Mr. Collins said: "This was only what was anticipated when the present program was worked out, and at that time it was fully expected that the Greater Seminole area would attain a production very close to 400,000 bbls. at some time soon. The performance of the past week was not surprising to those who are fully acquainted with conditions of production in the field, and should not be interpreted as signifying that the agreement is failing. The close-in territory from which the increase came is not affected in the least by the agreement, and our only efforts have been directed toward eliminating the change of drilling in any new wells in outside territory where another campaign would immediately follow."

"The Gypsy Oil Co.'s Cindy Brown well in Section 33-8-6 offers an example of what the producers can really accomplish," said Umpire Collins, "and under the terms of the agreement, the producers owning leases adjoining the Gypsy property have not started any new wells, and the Gypsy Brown well has been pinched in to a daily production under 75 bbls. This is an accomplishment, and two other wells have been included in similar agreements.

"The numerous short term leases in this area have worked many hardships upon the perfection of shut down plans, and leases which expire next fall and during the winter present real problems, as the royalty owners in most cases insist that the leases be drilled, or else surrendered. The prices asked by royalty and land owners for lease renewals in many cases equal the cost of drilling a well, and under these circumstances, the lease owners feel obliged to drill their properties. Small leases also make trouble and in one case, there is a 40-acre tract which has three different leases and three different sets of royalty owners under it. This will naturally offer a great deal of trouble but I am sure that it can be worked out in a manner which will be satisfactory.

Earlsboro and Bowlegs

"There is one well in the area under control which is running high, and has good possibilities. Nearby is a lease which expires in mid-winter. The owners of the short term lease required to protect their investment, and yet if they start a well, all their neighbors will immediately build rigs and start drilling. It is problems such as these which must be worked out with a minimum of damage."

Speaking of the producing regions of Earlsboro and Bowlegs, Mr. Collins said: "At no time was there any plan or intention to limit oil production in what is considered the hot spots, and along the producing parts of the field which have good geological indications, drilling is carried on unhampered. At Earlsboro, there seems to be an idea that a certain region running north and south will be very productive, and drilling is being pushed in that spot. At Bowlegs, certain sections have aroused great interest and the owners of leases in these sections now have extensive drilling operations under way. To try to stop them would be useless, and our only good work will be in limiting the output of wells in the outlying parts of the territory.

"Discovery rights must have some consideration in a field such as this, and that offers further troubles. Normally when a well comes in with a big initial production, the owners have from 60 to 90 days pull upon the sand before the adjoining lease owners can complete wells. This generally means around $200,000, and it is not hard to understand why the owners of adjoining leases dislike to sit idly by and watch the oil pulled from under their properties. The royalty owners must also be considered, and if the discovery well is limited to a nominal output daily, while the offset wells are permitted to drill to the top of the sand the usual pull of 60 or 90 days will not take place.

"We have been considering the Seminole Field by weeks, when as a matter of fact the effect of any program as large as the one now existing at Seminole can only be judged over a period of at least two months."

In connection with Umpire Collins' remarks, it is interesting to observe the number of wells drilling in Greater Seminole, and note that very few new wells have been started in the area under restriction since the plan was inaugurated. The total number of operations is steadily decreasing as the wells are completed, and if the decrease continues for two months, it is bound to limit the production of Greater Seminole.

Too Much Oil in Maracaibo District

Lagunillas Output Forces Curtailment in Other Areas Owing to Lack of Transport and Storage Facilities

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., June 6.—"One year ago the problems which confronted the oil companies of the Maracaibo Basin were quite different from those which are bothering them now," states Consul Alexander K. Sloan in a recent report from Maracaibo, Venezuela.

A change in the problem of the oil industry operating in Venezuela Mr. Sloan shows was from one which sought to produce all the oil possible to one which is finding it necessary to adopt restrictive methods.

"At that time," states Consul Sloan in his reference to the condition of three years ago, "the three companies operating in the La Rosa Field were pushing their drilling crews and endeavoring to obtain as much production as possible. In the Mene Grande the proven area was being extended in all directions and the prediction was often heard that production from that field would never be allowed to fall below the combined production of the three companies operating in the La Rosa Field.

"The Ambrosio Field was being tested out and preparations were being made there for an intensive drilling campaign. In the El Mene Field test wells were being drilled in the hope of uncovering deeper sands. The Concepcion-La Paz Fields were yielding a fine grade of oil and it was hoped that by the end of 1926 a much greater area would be proven. In practically every section of the Maracaibo Basin there was great activity and oil companies which were operating productive territory were preparing for much more extensive development."

Conditions Reversed

After the foregoing recital, showing the hope of the producers in this oil field for conditions that would warrant them in unlimited activity, Consul Sloan paints the other side of the picture which shows a larger production than was anticipated and an inability to care for the oil as rapidly as was expected. It is not that every field participated in this unusual production because at some places there were disappointments, but the Maracaibo Basin as a whole was far more prolific in yielding petroleum than the most sanguine of its drillers looked for. What the production in the Maracaibo Basin would be had not the difficulties of disposing of production been met is problematical because in many directions activities have been slowed down.

"In May, 1926," says Mr. Sloan, "the discovery well of the Lagunillas Field was brought in, but production was held back until August. By that time the discovery well in the Punta Benitez Field had been brought in. Three companies which held concessions in the new fields immediately curtailed their drilling programs for the Ambrosio and the La Rosa Field and transferred men and materials to Lagunillas and Punta Benitez. Operating camps were hastily thrown up, tank farms and pumping stations were erected, wharves were built and every precaution was made for an active drilling campaign.

Lagunillas Overproduction

"In the Lagunillas Field every well drilled up to the present time has produced oil in abundance. The companies operating there are not confronted with the task of getting oil, but they are worried over the question of disposing of their production. This problem has now become so serious that it has made every other field problem a secondary matter. At the present there is too much oil in the Maracaibo district; that is, there is too much oil for the available transportation and storage facilities."

Statistics accompanying this report are of especial interest as showing the number of barrels exported from the various fields of the Maracaibo district during the last two months of 1926 and the first two months of 1927.

In the La Rosa Field the exportation in November of 1926 was 1,941,056 bbls. and in December it was 2,184,633 and these exports fell off so that in January, 1927, the amount was 1,493,318 bbls. and in February it was 1,491,850 bbls.

In the Lagunillas Field, however, heavy production was permitted to come in and obtain export so that, while in November, 1926, the exportation was 183,898 bbls. and in December 324,850 bbls., the quantity that was sent abroad was increased in January, 1927, to 1,058,787 bbls. and in February 1,508,809 bbls.

In Other Fields

In the Mene Grande Field, the El Mene Field and the La Paz-Concepcion Field there was no great change in the amount exported during these two periods for which the comparison is made.

In the Mene Grande Field in November the quantity was 645,497 bbls., and in December, 1926, 385,923 bbls., the exportation for January and February, 1927, being, respectively, 448,589 and 467,213 bbls.

In the El Mene Field the exports for November, 1926, were 209,131 bbls. and for December 240,945 bbls., whereas for January and February of 1927 the quantities were 242,531 and 234,389 bbls.

In the La Paz-Concepcion Feld the exports for November, 1926, were 151,396 bbls. and for December 133,326 bbls., whereas for January and February, 1927, the quantities were 167,362 and 125,505 bbls, respectively.

In the compilation of the foregoing figures, one company operating in the Lagunillas did not segregate its export figures for November and December but reported all oil as coming from the La Rosa Field. Consequently, the exports as reported are slightly too large for the La Rosa Field and slightly too small for the Lagunillas during the period mentioned.

Curtailment Elsewhere

"It will be noted," says Mr. Sloan, "that the rapidly increasing production of the Lagunillas Field has caused the companies drilling there to curtail production in other fields in which they are operating. During February no oil was exported from the Ambrosio Field and many wells in the La Rosa, Mene Grande and La Paz-Concepcion Fields were choked down or shut in."

It is stated that there were only three companies operating in the Maracaibo Lake Basin at the time this report was made which have tanker fleets and which are able to transport production from the lake to deep sea harbors or refineries. These companies control or operate concessions in Mene Grande, La Paz-Concepcion, Ambrosio, La Rosa, Punta Benitez and Lagunillas. One of these companies has contracted for the oil from the El Mene Field.

As a result of the present overproduction the great activity which prevailed in the operating fields at this time last year is not to be seen at present except in the Lagunillas and, to a lesser extent, in the Punta Benitez.

A quotation is given from an oil authority respecting these fields as follows: "In Venezuela we need to consider, not so much what the country can produce, as what it will be permitted to produce." As a basis for that statement it is said that the oil companies now operating in the Maracaibo Basin have other fields from which they can draw, and that market conditions may induce them to speed up production elsewhere rather than in Venezuela. But in this connection it should be remembered that three competing companies are drilling in the Lagunillas Field, that a line fight is on there and that each company has the evident intention of getting out as much oil as it can handle. Under the circumstances, it is said the production of Venezuela for 1927 will not depend upon company policy but upon storage and transportation.

Venezuela-Seminole

The statistics for the several fields that have been given to compare the months of November and December, 1926, with January and February, 1927, seem to bear out this forced drilling condition in the Lagunillas Field because, while in the La Rosa Field there was a decrease in exportation, the Lagunillas Field showed an increase for January and February of about five times the production

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Small Gain in Crude Oil Storage

Stocks in Oklahoma and Kansas Have Not Increased in Proportion to Vast Flood of Production

By J. L. Dwyer

Stocks of crude petroleum in Oklahoma and Kansas—the area chiefly responsible for the big increase in production—have not shown the gain which might have been expected as a result of the flood of crude thrown on the market from operations in the Seminole Field. While crude oil production in Oklahoma alone is averaging 9,000,000 bbls. a month more than it did a year ago, crude in storage in Oklahoma and Kansas increased only 15,000,000 bbls. from January 1, 1927 to June 1. This figure is based on the total crude oil stocks of purchasers and pipe line companies and takes no consideration of oil stored on leases.

The storage figures are distributed as follows:

	January 1	May 1	June 1
Oklahoma	68,000,000	79,000,000	82,000,000
Kansas	14,500,000	15,500,000	15,500,000
Total	82,500,000	94,500,000	97,500,000

At this time last year the total crude oil stocks in the same territory were approximately 93,000,000 bbls. The seasonal draft upon crude stocks which normally starts in the spring and continues until late fall, during 192o began in April and continued until late November when Seminole's daily output approached the 100,000-bbl. figure. During December and January of last winter, due chiefly to the production of Seminole, the stocks began to display a large increase, and at one time nearly 200,000 bbls. daily was finding its way into the large tanks. The oil produced during the winter has built up the stocks to the present level, and the heavy demand recently experienced has reduced the net input from 5,000,000 bbls. monthly to around 3,000,000 bbls. monthly.

On of the most important indications of the condition of the industry is whether or not crude stocks are being increased or decreased. Regardless of gasoline movement, when the oil is being taken out of storage, a feeling of optimism is reflected, and when any appreciable amount of oil is being put into storage, a note of caution permeates the industrial atmosphere. The recent reduction in the rate at which crude is being stored influences the opinion that an improvement is at hand, and while the current earnings of the producing companies will hardly show flattering profits, there is a possibility that crude prices will be revised upwards within the next 60 days.

One of the main reasons for this opinion about advancing crude prices is that aside from Seminole there is not another new pool of any magnitude in the Mid-Continent Field which produces as high a gravity of oil as Seminole. The fields of West Texas are expected to make large production before another 60 days, but in every instance their output is a comparatively heavy oil with its resultant gasoline yield far below the percentage recovered from the lighter crudes.

The Smackover Field of Arkansas during the summer of 1925 reached a peak production of 420,000 bbls., and yet the price reductions occasioned by this development were localized, and in July of that year, the prices of Oklahoma and Kansas crude was increased.

During the period of intense activity at Seminole, there were many reversals of conditions experienced in similar situations. From the time of Cushing, which was the first field to flood the Mid-Continent with crude, the fields causing the overproduction have been subjected to proration of oil runs, and while the congestion occurring at Seminole last winter very closely approximated this condition, actual proration never occurred in the field and there was never any talk of prorating the runs of other fields.

Today we have the unique conditions of every pipe line company soliciting the producers for connections in the Greater Seminole area. When Cushing was producing an amount of oil corresponding to the current output of Seminole, pipe line companies were refusing connections, and proration existed.

While the Kansas-Oklahoma region is storing oil today at the rate of 2,000,000 bbls. monthly, other sections of the Mid-Continent are reported to be very nearly equalizing their runs and shipments. The Louisiana-Arkansas fields are adding slightly to storage, while the Texas fields are taking approximately 100,000 bbls. daily out of storage. The Texas Panhandle is registering an increase in stocks over the past few months, but the remainder of the Texas fields are reducing crude stocks.

Future conditions of crude stocks in the Mid-Continent depend to a large extent upon favorable weather conditions with their reflective increase in motoring, and also upon the discovery of any new fields which will yield light oil.

Marketing Methods in Chicago Area

Expect Large Increase in Distillate Demand During Coming Season. Explain Contracts and Specifications

By J. B. Waldo

CHICAGO, June 4.—The manufacturers of domestic oil burners in this city look forward to the selling season of 1927 in anticipation of increased sales. They believe that many of the mistakes that are almost unavoidable in a new industry have been recognized and if not entirely corrected have been very largely overcome and will be done away with.

Here in Chicago there are various estimates of the number of domestic oil burners installed and each estimate has some appearance of authority yet all cannot be even approximately correct so wide is the variation. One estimate states that at the beginning of the sales season for 1926, there had been installed in the Chicago district—that is the city and its immediate suburbs—very close to 30,000 burners of the domestic type not requiring attendance from an engineer or fireman. During the season of 1926 it is believed that fully 6,000 burners of this type were installed in this city making a total of 36,000 burners at present.

For the country over it was stated by the Research Division of the American Oil Burners Association that previous to the season of 1926 there had been installed in homes, apartment houses, small business concerns and the like a total of 686,000 burners of the domestic type. This did not include any industrial burners or small kerosene burners installed in stoves of which many were put in by local mechanics for cooking, heating of water and even heating of the home if small.

AN EDUCATIONAL PROGRAM

The educational program of the Oil Heating Institute, a division of the American Oil Burner Association, was inaugurated the past week with full-page advertisements appearing in the Saturday Evening Post and other national publications.

The Oil Heating Institute to carry on research, educational and publicity work was organized in April at a meeting of the American Oil Burner Association held in Buffalo. The institute had already completed plans for nation-wide educational program through which the public will become familiar with the claims made for oil heating in homes.

The institute which has its headquarters at 350 Madison Avenue, New York will also serve as a central bureau of oil heating information. This includes technical data for architects, contractors and fire authorities.

Leod D. Becker is managing director of the Oil Heating Institute.

FURNACE OILS FOR THE 1927-1928 SEASON

With the start of the main consuming season less than three months away, refiners and distributors of petroleum products are giving considerable attention to the furnace oil market for the 1927-28 season. In some sections contracts between refiners and distributors covering season requirements have been closed and in several instances, the distributors in turn have made contracts with the consumers. The bulk of the season's business, however, is yet to be closed with the usual differences in opinion among sellers and buyers not only as to price but also as to specifications of the distillates to be used as fuel for furnaces.

Due to the overproduction of crude oil during the past few months with no prospects of immediate relief, the market outlook for distillates as fuel for domestic burners is of special importance at this time. Leaders of the industry as one method of ending the present overproduction of crude oil recently have pointed out the importance of doing everything possible to promote the maximum consumption of distillates.

Believing that many constructive suggestions would be secured, The Oil and Gas Journal recently instructed its editorial representatives to get in touch with refiners, distributors and burner manufacturers in their areas and secure from them representative views regarding the distillate outlook for this year.

In this issue reports from the Chicago and New York areas are given. Reports from other sections will follow in later issues. The information obtained indicates that there will be a large increase in distillate demand, the estimates varying from 20 to 30 per cent. The reports contain interesting data relative to specifications, refinery processing, marketing methods and new developments in burner design.

New Installations

It is estimated that during the past year there were installed approximately 100,000 burners of the automatic forced feed domestic type. In addition it was pointed out that there were at least a dozen burners listed as standard by the Underwriters Laboratories that were not included and that these should have and almost certainly did sell enough burners to bring the total to nearly 110,000 burners, all of the automatic forced feed type. In view of the number of ommissions, it has been estimated, that there were enough burners sold during 1926 to bring the total number of burners installed for the entire country up to a round total of between 700,000 and 800,000 burners at the opening of 1927.

The sale manager of one of the best selling makes of burners supplied some data showing the potential market for oil burners. The number of homes was estimated at 24,000,000 and of these about one-half were owned by the occupant who would be most likely to be interested in the installing of an oil heater. It was estimated that over 10,000,000 of these owned homes were wired for electricity which would be essential if the automatic type of burner were to be installed. There are a number of makes of the natural draft type that do not require an electric motor. These figures indicate a possible market for the domestic oil burner with a volume many times as large as the number already installed. Of course there will be many home owners that will stick to the present method of heating until the introduction of the oil burner becomes very general. There is a very great market for the domestic oil burner and the oil man can do much to help in the introduction of oil burners in various ways.

Oil Per Burner

The makers of burners are very reticent regarding the amount of oil that their burners will consume. They state that their burner in a test under stable if not ideal conditions will produce a given number of thermal units from each gallon of oil but that the condition of operation, the kind of house and the like make it very difficult to indicate with any accuracy the full requirement of any one home.

Generally they prefer to estimate the fuel requirements in oil against the number of tons and kind of coal that has been found necessary for comfort in the home. A figure that is agreed upon by several burner manufacturers was that 150 gallons of oil would give as much if not more heat than a ton of the best coal. Figuring the average home requirements in the way of a good grade of coal at 10 tons, the equivalent in oil would be 1,500 gallons. This figure has been adopted by the Standard Oil Co., of Indiana, and by some others of the local distributors. But other Chicago oil companies state that this figure is too low and they estimate the requirements of their furnace oil customers at 2,000 to 2,500 gallons.

Many local consumers have kept a record of their consumption of furnace oil and a check of quite a number of these none of whom had homes above or below a fair average size, many of them with six-room dwellings showed that the range was from 2,000 to 2,600 gallons a year for this type of home.

There proves to be many factors in the problem. Some homes are much better built than others. Some heating plants are more efficient. Generally speaking the hot water heater is the most efficient if correctly installed. There were exceptions to every apparent rule. Some home owners are more economical in the use of their heating plant, prefer a lower temperature in the living rooms and do not require the full heat so many hours out of the 24. If the oil man wants to play safe so far as to purchasing the least quantity that will be required and avoid having a sizable carry-over at the end of the season he may use the 1,500 gallon figure in his estimates, especially if the winter prove mild or his locality is not too far north. On the other hand with a long cold winter he might require 2,500 gallons per customer or even slightly more than that quantity.

Grades of Oils.

What are the grades and kinds of oils required to make this great total? And here it will be well to touch on a point of disagreement between the oil burner manufacturer and the oil man. The maker of oil burners talk of fuel oil because the oils that he burns in his appliance are his fuels. To the average oil man the term fuel oils means the unrefined residue after the refined products have been distilled from the crude. Very few makes of domestic oil burners will successfully consume any of the oil man's fuel oil. And these will use only the higher gravities under best conditions. A prominent oil burner inventor and manufacturer said when asked regarding possible co-operation between the oil industry and the burner industry, "The first thing is to give us a nomenclature that all can understand and that will apply to all parts of the country from coast to coast." Others have voiced the same thought. Frank A. Howard, president of the Standard Development Co, in a public address to oil men and oil burner men suggested the division of oils used for heating into three classes:

Three Classes

Furnace Oil—This he described as "The highest grade of distillate fuel oil which is generally distributed for use in oil burning equipment not of the wick-feed type. It will give excellent results in practically all domestic oil burners and is the only type which will operate satisfactorily in the simple vaporizing burners." He described this grade as very close to kerosene except that it had not been treated for use in lamps and ordinary kerosene stoves. The best fuel for the majority of the burners now in use and therefore commanding a higher price than any other oil fuel.

Domestic Fuel Oil—"This classification applies generally to all clean, distillate, petroleum products of good volatility, low viscosity and low cold test. Products coming within this range are sold for other uses under the names of distillate fuel oil, gas oil and Diesel oil." Mr. Howard explained that the name of this classification indicated the purpose for which the oil was to be used and no reliable source of supply would deliver an oil not suited to the purpose.

Industrial Fuel Oil—"This classification is intended to include any liquid petroleum product of low value available for use in marine, railway and industrial power plants."

This would be a simple classification of heating oils of all grades and Mr. Howard expressed the opinion that it was workable. If generally adopted all domestic oil burners would be operated on either the furnace oil or on the domestic fuel oil classes. Any burner that would operate on domestic fuel oil would operate successfully on furnace oil, the main reason for designing a burner that will operate on the heavier oil being to lower the operating costs by the use of an oil of which the total supply is larger and the price lower.

Quite a contrast to this simple classification is the table furnished to its distributors and local sales force by a large oil company which listed 132 domestic oil burners and indicated the correct oil. The grades of oil included 12 items ranging from Smackover crude to kerosene. In practice this list of oils can be reduced to three grades, the highest being the distillates above 36 gravity, the second gas oil with a gravity of 32-36 and the third class the fuel oils treated for this use and ranging from a 30 gravity downward.

Small Deliveries

It is to be remembered at all times in considering the questions arising in connection with the distribution of domestic burner fuel oils that they are handled as to individual orders, in small quantities. Some of the Chicago distributors are insisting that no delivery shall be less than 400 gallons, others require a delivery of but 150 gallons at one time.

One Grade

Several of the largest refiners and distributors doing business in Chicago confine their furnace oil to one grade. The Standard Oil Co., of Indiana, has but one grade, an amber distillate, gravity 36-38, flash below 160, carefully cleaned and treated so that it has no solid impurities nor any odor that is objectionable. Several other large refiners refine a similar grade of furnace oil and find that it meets the requirements of practically every make of oil burner. Others supply two principal grades these being a distillate usually a 38-40 or 39-41 straw and the other a 32-36 gas oil product the latter selling at about a cent a gallon less than the distillate grade. Following is a price list that is at present in

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Low Flash Oils in Eastern States

Bad Odor Eliminated With Some Companies Using Artificial Coloring. Types of Burners Important

By L. M. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 4.—Oil companies making and marketing furnace oil in the East are having little trouble in meeting the requirements of all house oil burners. This is because practically all companies are putting out a low flash oil and some of the companies are artificially coloring the oil and eliminating bad odor. In meeting the requirements of the great variety of types of burners, however, in many cases a furnace oil of better quality is being supplied and burned than is necessary. The general policy is to supply an oil which will be satisfactory in burners of the type that have no method of fine spray for ignition, while those equipped with atomizing features are capable of using oil of higher flash.

One of the eastern companies which does a large furnace oil business, selling only to distributors, makes a furnace oil with the following specifications: Gravity 37 degrees, minimum, open cup flash 150 degrees, maximum; sulphur .2, maximum; color, artificially colored; odor, good.

This is fairly typical of the furnace oil being marketed in the East, although some of the companies have not gone in for artificial coloring. In some cases, also, no particular attention is paid to the sulphur content which is not considered large enough to have any bad results.

The companies generally are correcting offensive odor, as they appreciate that this is an important factor in the sales end. In the earlier development of the furnace oil business in the East it was found that complaints as to the odor of the furnace oil on the market were particularly insistent, and the result has been a treating of the oil generally to offset such complaints. Similar complaints were common in the early days of the automotive business, and in putting out a good odor furnace oil it was recognized that this was more important than in the case of "odorless" gasoline in that the user lives with his oil burner constantly throughout the winter months.

Specifications generally followed in the East call for a furnace oil not higher than 155 degrees flash, open cup. One company is marketing an oil with a sulphur content of about 1.5. One of the factors in the East is the making of furnace oil to meet the conditions of climate, and most of the product being made is low cold test suitable for marketing throughout the territory, up to the Canadian border.

Gravity Specification

A difficult still experienced to some extent in the East is that distributors frequently bring up the matter of the gravity of the furnace oil. However, this is becoming less noticeable with the understanding that gravity is not important. It has been found in actual cases that oils with higher gravities have not necessarily been satisfactory and have failed to meet requirements. Low gravity oils may in some cases be as satisfactory as the high gravity product, or even more satisfactory, but the distributor is beginning to appreciate after experiences in this territory that flash and viscosity are the most important factors respecting furnace oil specifications.

Experiences particularly in the northern states where some of the burner manufacturers installed burners with orifices which did not take into consideration the more severe climatic conditions of the North, ran into the difficulty of starting and feeding their burners because of having to handle a more viscous oil.

Some burners can take a much more viscous oil than others. It has been found that the relatively low flash oil marketed in the East is satisfactory from the standpoint of viscosity. Procuring a minimum flash or around 155 degrees open cup insures a nonviscous product suitable for the types of burners in operation in this territory.

Type of Burners

Manufacturers of oil burners in the East are generally satisfied with the character of furnace oil being supplied, although they are in favor of uniform specifications with all companies putting out a uniform product. The admitted difficulty is that the different burners require different specification furnace oil. There are, broadly, two main types of house oil burners in use in the Eastern territory: Those using the fine spray method for ignition and the nonatomizing kind. The latter type is in large use.

It was found that the higher flash furnace oil tended to smother the pilot light in the nonatomizing type of burner, while it was satisfactory in the other type. To meet the situation, the companies manufactured a lower flash oil suitable for both types, rather than attempting to furnish a different specification product for the two general types. It was realized that the difficulties of making two or more different grades of furnace oil would complicate marketing and might confuse the consumer who is not familiar with specifications.

The result is that in a general way the furnace oil marketed in the East is virtually a uniform product. This represents a gradual evolution, and has been brought about through the experiences of the companies in marketing their oil for various types of burners.

In respect to the working out of a more or less uniform product in the East, the development in the home oil burner business has been somewhat similar to the gasoline trend for motor fuel purposes, toward greater uniformity and better quality. A few years ago domestic fuel oil was a residual product, usually uncracked distillate, and varied a great deal. To further complicate the situation the oil burners were of many different types, some taking a product approximating kerosene and having little variation in range, and others a heavy fuel oil. In recent years the tendency has been to adapt burners to a wider range of fuel. Burners which previously required a 36-40 distillate are now capable of using a much lower gravity distillate, although, as stated, the gravity is not the deciding factor.

In the East there is now little high viscosity oil on the market for furnace purposes. It has been found that kerosene is much too volatile in hot weather and the tendency is toward a much lower endpoint.

Company Owned Burners

The principal companies in the East which have developed and are selling their own house oil burners and are also making and selling furnace oil are the Standard Oil Co. of New York and the Gulf Oil Corp. Both companies have actively pushed their burners. The former company began to put out the Socony burner three years ago and has extended its installations in many parts of the New York and New England territory. Gulf began an active sales campaign for its burner last year.

All the large refining companies are making furnace oil in the East and are actively pushing the business. There are three classes of oil company marketing: First, by companies such as the New York Standard and Gulf which have their own burners and which contract to furnish oil for their installations and which also market to distributors and direct to consumers, and, third, by companies marketing only to distributors.

In the first class the companies have divorced their furnace oil sales promotion from the burner sales end. That is, the householder who buys a Socany Arrow or Gulf burner is not committed to buy the product of either of these companies, and, in fact, the sales of burners are handled by an entirely different corporation in each case.

In the first two classes the companies are equipped with tank wagons for supplying furnace oil direct to the consumer. A few years ago the furnace oil tank wagon was a rarity in the East and now it is prevalent on the roads. The customary method of contracting with the consumer is a flat price over the heating season.

A large dealer trade in furnace oil has been built up in the East in recent years. In some cases these dealers are the coal dealers of a locality, or in other cases they handle furnace oil exclusively. They are equipped with tank trucks and deliver direct to the consumer. The customary form of contract for furnace oil for dealers is a contract carrying a flat price over the heating season or a maximum price contract, the latter protecting the dealer from paying over a stipulated price and giving him the benefit of price declines based on f. o. b. refinery prices at the time of the delivery of his oil. Dealers usually resell to consumers either on a flat price basis or on a maximum price contract basis.

The prevailing price for furnace oil in the East last winter was 7½ cents a gallon. At the present time the price is 6½ cents.

Oil companies report the expectation of a substantial increase in furnace oil business this year, and all companies are actively pressing sales and are now making contracts for the coming season. Several companies which have been lukewarm to furnace oil possibilities on the ground of the industry's possible inability to furnish requirements at reasonable prices, are now convinced that there will be plenty of oil for house heating. In addition they are convinced that the market offers one of the solutions to the present overproduction situation.

An increase of 28 per cent in this country's consumption of furnace oil and domestic oil is estimated for the heating season this year. This is based on the present indications of growth in the installations of oil burners, and it may prove to be conservative if active promotion plans under way by the burner manufacturers prove effective.

The consumption last year is estimated at 25,000,000 bbls., as against 18,000,000 bbls. in 1925. The estimate for this year places the figure at 32,000,000 bbls.

At the present time, according to best available figures there are 686,000 home burners installed in the United States. By the end of the year the number will have been increased to 898,000, with the principal burner manufacturers reporting an active inquiry and a large gain in installations for this time of the year.

One of the principal factors reported by burner manufacturers as adversely influencing the sale of burners is the extent to which the impression prevails that some day there will be a shortage of oil. Under present conditions, with the oil industry co-operating, they believe this impression can be dissipated, and that many prospective users who have been hesitating for this reason will be won over.

A. S. T. M. STUDYING FURNACE OILS HOWARD SUGGESTS THREE GRADES

By L. M. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 4.—Substantial progress toward working out the problem of domestic oil specifications has been made during the past year. The oil burner manufacturers' view that the petroleum industry should put out uniform grades of oil met with the difficulty encountered because of the variety of types of burners being installed requiring different fuels. The oil companies have felt that it is impossible to make a variety of grades to meet the specific requirements of each burner type, but that the situation could be met by establishing certain broad fuel classifications, the burner manufacturer indicating to the purchaser the type of fuel that should be used.

Much of the difficulty has been due to no uniform nomenclature for the various grades of fuel oils. Until recently and in some cases still, the burner people have attempted to distinguish between fuel oils on a gravity basis which has resulted in trouble, confusion and misunderstanding. The matter has been taken up by Committee D-2 on petroleum products and lubricants of the American Society for Testing Materials which will soon report to the society its recommendations. Its preliminary proposals have been submitted for comment in the trade generally.

They deal primarily with the properties which are important for a domestic fuel oil or funace oil without attempting to fix limits, this being left to the burner people because they are considered best qualified to state which particular fuel is adaptable for their individual burners.

There is ordinarily a wide variation of types of fuel for which household burners are designed, and it is proposed to divide them into two classes, the first covering distillates related to kerosene, and the second the light fuel oils.

There is ordinarily a wide variation of types of fuel for which household burners are designed, and it is propsed to divide the minto two classes, the covering distillates related to kerosene, and the second the light fuel oils.

Light Distillates

For the first it is desirable to specify minimum and maximum flash points. The minimum flash point is necessary for compliance with legal requirements. A maximum flash point is desirable in some instances to take care of operating requirements of certain types of burner equipment. The recommended maximum flash should be above 150 degrees Fahrenheit, closed cup, in all cases, and for localities where the minimum flash is 150 degrees Fahrenheit, closed cup, it should be above 165 degrees Fahrenheit. For the second class of furnace oil only a minimum flash point is considered necessary.

Regarding distillation range, the committee reports a distillation requirement necessary for the oils of the first class to limit deliveries to the type of oil desired, and to insure proper fluidity and volatility. Only the 10 per cent and 90 per cent points need be specified, the former to assure the proper amount of readily volatile material and the latter to protect against excessive amounts of high-boiling constituents.

Distillation range specified takes care of viscosity in the case of the oils of the

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Refinery Runs Less Than Year Ago

Mid-Continent Operations Show Slight Decrease Over June, 1926. Increase of 6,565 Bbls. Over Last Month

W. T. Ziegenhain

Although the scheduled runs in the Mid-Continent plants for June are 6.565 bbls. more than last month, they are 2,605 bbls. less than the June schedule a year ago, indicating that refiners are adopting a more conservative attitude toward increasing the runs at the entrance to the period of greater consumption. There was also a noticeable increase in cracking operations and many plants that had previously curtailed their pressure still charges are now operating at capacity, and but few plants are now idle.

There was little change in the operation of the individual plants between May 1 and June 1. The total capacity of all plants on June 1 of this year is the same as that of June 1, 1926, reflecting the small margins allowed in the skimming operations, the increased gasoline production being made by the increased cracking capacity.

Oklahoma

The Oklahoma refineries showed the greatest increase in the crude runs for June 1, the increase being 6,840 bbls. This is only 1,300 bbls. more than June of last year. The runs of the White Oak Refining Co., which will start operation of its plant about June 15, running 1,5000 bbls. daily, were not included in the summary.

North and Central Texas

The runs of the north and central Texas refineries for June remain practically the same as May but are 4,260 bbls. more than a year ago. The number of operating plants was decreased by the shutting down of the Olney Oil & Refining Co.'s plant at Olney and the Burkburnett refinery of the Travis Refining Co. This was partly balanced, however, by the starting up of the Anderson & Prichard Oil Corp.'s refinery at Wichita Falls. This plant formerly belonged to the Western Oil Corp. and was sold to the Anderson & Prichard Oil Corp. several months ago. The plant was improved and has just started operating, charging 1,200 bbls. of crude daily.

Kansas

The Kansas runs for June are scheduled 1,260 bbls. below those of May and are 9,390 bbls. below those of a year ago. The decrease is general among the larger companies, when comparing the difference over the year.

North Louisiana

North Louisiana is the only section showing decreased crude runs in comparison with May, the decrease amounting to 5,910 bbls. Last June the runs were just 1,150 bbls. less than this June, as a result of this decrease.

Arkansas

The Arkansas refinery operations were not marked by any great changes. The runs were increased 2,640 bbls. over May runs but were the same as June, 1926.

RUNS TO STILLS IN MID-CONTINENT REFINERIES

	Bbls. Daily
1925	
May 1	398,940
June 1	423,950
July 1	440,350
August 1	427,382
September 1	407,690
October 1	415,575
November 1	383,225
December 1	375,979
1926	
January 1	390,200
February 1	385,845
March 1	365,990
April 1	368,210
May 1	391,355
June 1	415,450
July 1	410,070
August 1	407,475
September 1	419,995
October 1	408,975
November 1	417,575
December 1	403,450
1927	
January 1	403,625
February 1	418,595
March 1	418,920
April 1	401,860
May 1	407,355
June 1	413,920

MID-CONTINENT REFINERY OPERATIONS
Table No. 1
(Based on plants June 1, 1927, and May 1, 1927.)

	*No. Plants June 1	Crude Cap. Bbls.	Crack. Cap. Bbls.	Plants Oper. June 1	Runs to Stills June 1 Bbls.	Plants Oper. May 1	Runs to Stills May 1 Bbls.	Daily Inc. June 1
Oklahoma	47	269,900	80,100	42	184,175	42	177,335	6,840
N. C. Texas	40	166,300	41,800	32	91,785	33	90,050	1,735
‡Kansas	20	130,000	61,600	16	83,860	16	82,600	1,260
No. Louisiana	5	43,300	19,300	4	33,900	4	39,810	†5,910
Arkansas	11	34,300	20,000	8	20,200	8	17,560	2,640
Total	123	643,800	232,800	102	413,920	103	407,355	6.565

*Does not include plants shut down one year or more. †Decrease. ‡Includes two Missouri plants.

Table No. 2
(Based on plants June 1, 1927, and June 1, 1926.)

	No. Plants June 1, 1926	Crude Cap. June 1, 1926	Plants Oper. June 1, 1926	Runs to Stills June 1, 1926	Daily Inc. June 1, 1927
Oklahoma	56	272,600	49	182,875	1,300
N. C. Texas	41	167,250	33	87,525	4,260
‡Kansas	22	130,700	18	93,250	†9,390
No. Louisiana	7	41,500	6	32,750	1,150
Arkansas	9	31,000	9	20,125	75
Total	135	643,050	115	416,525	†2,605

*Does not include plants shut down one year or longer. †Decrease. ‡Includes one Missouri plant.

REFINERY OPERATIONS IN OKLAHOMA
(Plants which have been in operation during the past year.)

Name and Location—	Daily Capacity	Runs June 1	Runs May 1
Andersen-Prichard Oil Corp., Cyril	2,000	1,700	1,200
Barnsdall Refineries, Inc., Barnsdall	6,000	3,500	3,500
Barnsdall Refineries, Inc., Okmulgee	10,000	6,000	6,000
Bell Oil & Gas Co., Grandfield	4,500	2,000	2,000
Bolene Refning Co., Enid	5,000	2,600	3,000
Cameron Refining Co., Ardmore	4,000	3,000	3,400
Canfield Refning Co., Yale	500	75	75
Champlin Refining Co., Enid	16,000	11,000	8,000
Continental Oil Co., Sapulpa	10,000	2,400	2,400
Cushing Refining & Gasoline Co., Blackwell	1,500	1,400	1,400
Cushing Refining & Gasoline Co., Cushing	3,500	2,100	2,100
Empire Refineries, Inc., Cushing	5,000	4,700	4,700
Empire Refineries, Inc., Okmulgee	3,000	3,000	3,000
Empire Refineries, Inc., Ponca City	7,500	7,500	7,500
Garber Refineries, Inc. (Omar), Garber	3,500	2,800	3,000
Gilmer Oil Co., Ringling	1,500	Shut down	Shut down
Globe Oil & Refining Co., Blackwell	5,000	4,500	4,500
Illinois Oil Co., Cushing	3,000	2,800	2,800
Imperial Refining Co., Ardmore	5,000	3,400	3,600
Independent Oil & Gas Co., Okmulgee	4,000	3,000	3,000
Interocean Refining Co., Bristow	4,000	1,000	1,000
Johnson Oil Refining Co., Cleveland	5,000	5,300	5,000
Marland Refning Co., Ponca City	28,000	20,000	20,000
Mid-Continent Petroleum Corp. (Cosden), West Tulsa	40,000	24,000	24,000
Oil State Refining Co., Enid	2,000	Shut down	Shut down
Oil State Refining Co., Allen	800	500	500
Peppers Gasoline Co., Covington	1,000	1,000	760
Pierce Oil Corp., Sand Springs	12,000	7,500	6,500
Producers Oil Co., Bristow	2,500	1,000	1,000
Producers & Refiners Corp., West Tulsa	6,000	3,000	3,000
Pure Oil Co., Ardmore	5,000	2,000	2,000
Pure Oil Co., Muskogee	5,000	5,000	5,000
Riley Petroleum Co., Bristow	1,000	500	500
Rock Island Refining & Pipe Line Co., Duncan	2,500	1,500	1,500
Sayre Oil & Refining Co., Sayre	500	Shut down	Shut down
Shaffer Oil & Refining Co., Cushing	10,000	10,000	10,000
Sun Oil Co., Yale	3,000	3,000	2,700
Sinclair Refining Co., Muskogee	1,000	Shut down	Shut down
The Texas Company, West Tulsa	10,000	12,000	12,000
Texas Pacific Coal & Oil Co., Wynnewood	2,500	1,600	1,800
Tidal Refining Co., Drumright	10,000	9,200	8,000
Transcontinental Oil Co., Boynton	2,500	2,000	1,500
Transcontinental Oil Co., Bristow	5,000	4,000	3,000
Tonkawa Petroleum Co., Tonkawa	2,500	700	700
Western Oil Corp., Beckett	2,000	1,000	1,000
White Oak Refining Co., Allen	2,000	Shut down	Shut down
Yale Oil Corp., Yale	1,500	900	700
Total	269,900	184,175	177,335

REFINERY OPERATIONS IN NORTH CENTRAL TEXAS
(Plants which have been in operation during the past year.)

Name and Location—	Daily Capacity	Runs June 1	Runs May 1
Alamo Refining Co., Isom	1,600	1,000	2,500
Amarillo Producers & Refiners Corp., Isom	2,000	1,000	850
Amarillo Refining Co., Amarillo	6,000	3,000	3,000
Amarillo Refining Co. (Miller plant), Wichita Falls	5,000	Shut down	Shut down
American Refining Co., Wichita Falls	7,000	4,500	3,500
Anderson & Prichard Oil Corp. (Western), Wichita Falls	1,500	1,200	Shut down
Col-Tex Refining Co., Colorado	7,500	6,200	5,000
Continental Oil Co., Wichita Falls	6,000	4,100	1,700
Dale Oil & Refining Co., Electra	2,500	2,200	2,200
Empire Refineries, Inc., Gainesville	5,000	4,000	4,000
Falls Refining Co., Wichita Falls	1,500	1,000	1,000
Gulf Refining Co., Fort Worth	10,000	6,500	6,400
Hagaman Refining Co., Tiffin	2,000	200	200
Humble Oil & Refining Co., Burkburnett	4,000	3,400	3,200
Iowa Park Producing & Refining Co., Iowa Park	2,500	1,200	1,200
Kent-Middleton Refining Co., Angus	4,000	1,300	1,200
Kent-Middleton Refining Co., Minerva	2,500	1,500	1,500
Macmillan Petroleum Co., Isom	3,500	2,785	3,000
Magnolia Petroleum Co., Fort Worth	12,000	6,500	6,000
Magnolia Petroleum Co., Corsicana	3,000	2,800	2,700
Megargel Refining Co., Megargel	1,500	Shut down	Shut down
Noble Oil & Gas Co., Burkburnett	4,500	3,400	2,100
Olney Oil & Refining Co., Olney	1,500	Shut down	1,500
Oriental Refining Co., Dallas	5,000	100	400
*Oriental Refining Co. (Trinity), Dallas	5,000	2,000	2,800
Orient Petroleum Co., Wichita Falls	4,000	1,000	800
Panhandle Refining Co., Wichita Falls	4,000	3,400	3,400
The Petroleum Corp., Electra	2,000	Shut down	Shut down
Primrose Refining Co., Wichita Falls	1,500	Shut down	Shut down
Primtex Refining Co., Grand Prairie	2,500	Shut down	Shut down
Simms Oil Co., Dallas	5,000	4,000	5,000
Star Refining & Producing Co., Fort Worth	1,800	Shut down	Shut down
The Texas Company, Dallas	16,000	9,800	9,800
Tidal Western Refining Co., Burkburnett	3,000	2,300	2,300
Texas Pacific Coal & Oil Co., Fort Worth	6,000	2,600	2,300
Transcontinental Oil Co., Fort Worth	5,000	2,700	3,500
Travis Refining Co., Burkburnett	750	Shut down	200
Waggoner Refining Co., Electra	3,400	2,800	2,800
White Eagle Oil & Refining Co., Fort Worth	4,000	1,800	3,000
Valley Refining Co., Wichita Falls	2,500	1,500	1,000
Total	166,300	91,785	90,050

*Operated by Magnolia Petroleum Co.

REFINERY OPERATIONS IN KANSAS
(Plants which have been in operation during the past year.)

Name and Location—	Daily Capacity	Runs June 1	Runs May 1
Arkansas City Refining Co., Arkansas City	8,000	Shut down	Shut down
Barnsdall Refineries, Inc., Wichita	5,000	3,000	2,500
Derby Oil Co., Wichita	5,000	3,000	3,500
Derby Oil Co., Russell	2,500	Shut down	Shut down
Eldorado Refining Co., Eldorado	3,500	2,200	2,000
Golden Rule Refining Co., Wichita	1,000	700	700
Kanotex Refining Co., Arkansas City	10,000	7,200	7,000
Manhattan Oil Co., Kansas City	7,000	5,000	6,000
Miller Petroleum Co., Humboldt	2,000	Shut down	Shut down
National Refining Co., Coffeyville	6,000	6,000	6,500
Peerless Oil Refining Co ., Chanute	3,000	2,500	2,400
Roxana Petroleum Corp., Arkansas City	20,000	14,000	12,000
Sinclair Refining Co., Coffeyville	8,000	7,500	7,000
Sinclair Refining Co., Argentine	7,000	7,500	8,000
Skelly Oil Co., Eldorado	15,000	10,900	10,500
Standard Oil Co. of Kansas, Neodesha	12,000	6,000	7,000
Vickers Petroleum Co., Potwin	3,500	1,800	1,500
White Eagle Oil & Refining Co., Augusta	8,000	5,500	5,000
West Missouri Group—			
Alliance Rubber Producing Co., Centropolis	2,000	Shut down	Shut down
Wilholt Refining Co., Joplin	1,500	1,000	1,000
Total	130,000	83,860	82,600

REFINERY OPERATIONS IN ARKANSAS
(Plants which have been in operation during the past year.)

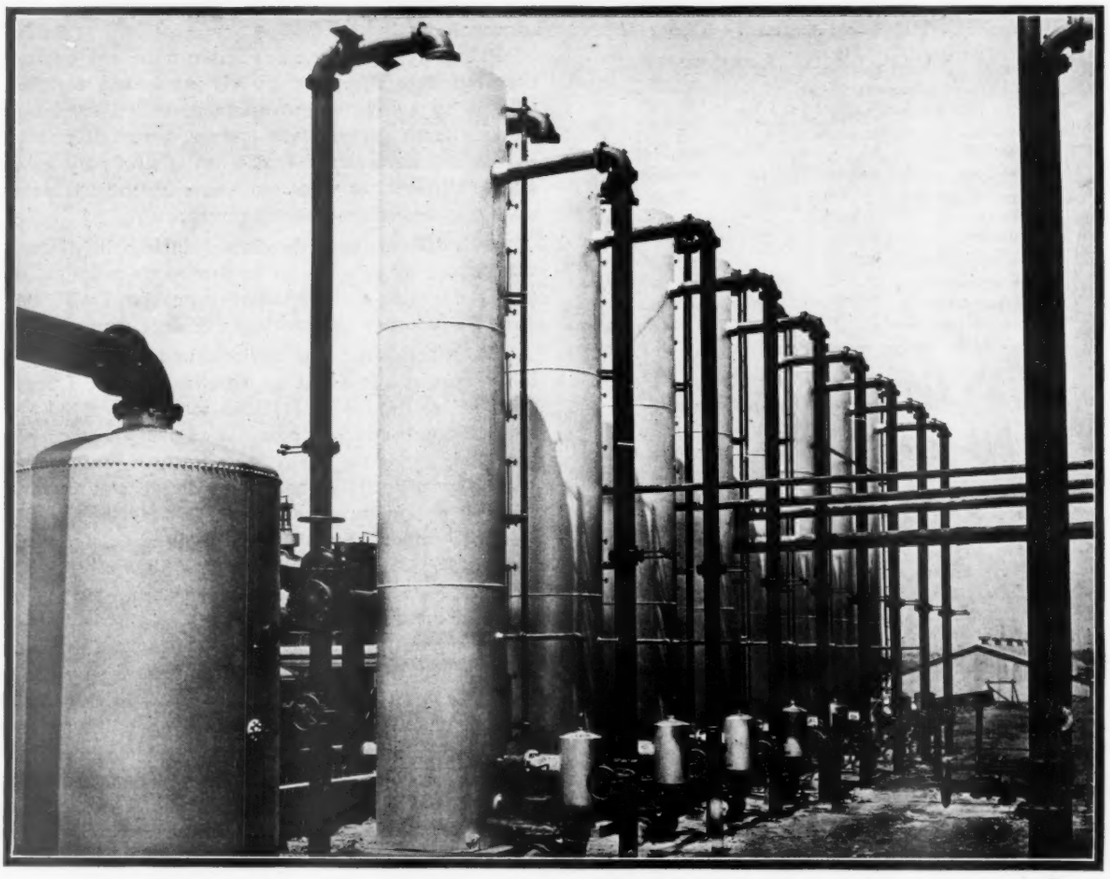
Name and Location—	Daily Capacity	Runs June 1	Runs May 1
Henry H. Cross Co., Smackover	4,000	4,000	4,000
Home Refining Co., Camden	500	Shut down	Shut down
Home Oil & Refining Co., Hot Springs	500	Shut down	Shut down
Houston Oil Co., Camden	3,000	2,300	2,000
Kettle Creek Refining Co., Pearson	6,000	2,500	2,500
Lion Oil & Refining Co., El Dorado	12,000	6,200	4,300
Newark Refining Co., El Dorado	1,800	1,350	1,000
Ouachita Valley Refining Co., El Dorado	1,000	650	660
Root Refineries, El Dorado	2,500	2,100	2,100
Simms Oil Co., Smackover	1,000	1,100	2,000
E. M. Tulie, El Dorado	1,000	Shut down	Shut down
Total	34,300	20,200	17,560

REFINERY OPERATIONS IN NORTH LOUISIANA
(Plants which have been in operation during the past year.)

Name and Location—	Daily Capacity	Runs June 1	Runs May 1
Crystal Oil Refining Corp., Shreveport	10,500	6,500	10,000
Great Southern Refining Co., Ardis	2,000	Shut down	Shut down
Louisiana Oil Refining Corp., Shreveport, Bossier	20,000	16,000	18,850
Shreveport Producing & Refining Co., Shreveport	5,000	5,400	5,300
*The Texas Company, Shreveport	5,800	6,000	5,660
Total	43,300	33,900	39,810

*Topping.

At the Sinclair Gasoline Plant, Seminole—



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PROGRESS IN STANDARDIZATION

The third semiannual conference of the special committees of the American Petroleum Institute on the standardization of oil field drilling and producing equipment, to be held at Colorado Springs next week, is expected to record a distinct advance in the progress of oil industry standardization.

The movement has now reached the stage where the immediate problem is to secure application of the benefits indicated by active introduction and use of the new standards.

It was a happy thought when the Department of Commerce launched the Hoover campaign for industrial standardization to name the division in charge of it the Division of Simplified Practice. The word "standardization" has come to be so used as to create in the popular mind a wholly false impression, as though standardization was the end in itself when it is only the means to that end.

The American Petroleum Institute stated it correctly when it created its Division of Standardization for the "simplification, standardization and improvement" of oil field equipment. The simplification and standardization were merely essential steps toward improvement.

Manufacturers and engineers knew, of course, what was meant by standardization but it is necessary, if the fullest benefits from the labors of the past three years and more are to be realized by the industry that the users of standardized equipment understand that there has been real accomplishment in improving the equipment; not merely doing away with unnecessary varieties or securing interchangeable parts, but also actually in better material of superior qualification for the work to be done.

This phase is particularly important in view of the greater strains put upon equipment in deeper drilling and the increase in power application. At the same time General Chairman J. Edgar Pew has sounded a necessary warning that because the standardized equipment may be better it should not be subjected to exceptional stresses beyond what it has been adapted for. This is a fact that should be popularly understood to prevent hasty criticism of consequences if it is disregarded.

Too much credit cannot be given to the more than 500 executives, engineers and field men who have given their time and labor freely to the work of standardization since it was taken up six years ago and particularly to the members of the special committees of the American Petroleum Institute who have worked out the specifications that have been adopted or are about ready for approval.

Primarily this work has fallen upon the engineering profession, the engineers employed by oil producing companies or those employed by equipment manufacturers. They have approached the subject from varying viewpoints, those of users and makers, but in the end have found that what at first may have seemed irreconcilable differences were overcome by mutual determination to get what was best suited for the purpose.

Such difficulties as developed during the discussions were honest differences of opinion, as to theory or practice, but were threshed out as scientific and engineering problems with the background and aim of advantage in practical use kept constantly in view.

An example of the tedious and painstaking character of the labor required is cited by Chairman J. F. Lucey in the work on standardization of tool joints which involved the most complete and thorough analysis possible of every known phase of thread engineering.

Every national authority on thread connections and every engineering organization interested in thread gauging and gauge practice was consulted while field tests and laboratory tests were conducted by field men and oil well engineers. The specifications cover three years of work although the actual survey of tool joints was begun about five years ago.

The amount of detail in connection with this one item indicates the magnitude of the program undertaken by the various standardization committees.

The benefits of that work to the industry cannot be overestimated. In addition to the improvement in equipment there is the material economy through the avoidance of wasted investment, labor and effort in unnecessary varieties.

As in other industries which have profited immensely through simplification and standardization capital tied up in mere diversity of manufacture and stocks can be released, mass production can be facilitated, and time, labor and money lost through noninterchangeability can be saved the purchaser, all factors operating for economy to both maker and user.

Careful calculations of the money equivalent saved by standardization in other industries have run from 20 to 40 per cent. At the Los Angeles meeting of the Institute Chairman H. J. Lockhart said the various national chairmen estimated that when the different articles embraced in the oil industry program are standardized there will be a net saving to the user of at least 15 per cent. That economy will help in meeting the higher costs of operation required by altered conditions.

What has been accomplished has been achieved through team work between makers and users and both will reap the benefits. The oil industry has been fortunate in having the continual cooperation of manufacturers of the equipment it uses. They have been as anxious for greater efficiency as the oil men themselves and in this matter of simplification, standardization and improvement have contributed time and labor as freely.

Specifications have been completed on most of the items listed for study. Handbooks explaining what has been done have been distributed in every oil producing district. It is now, as Chairman Pew says, up to oil producers to give active support in the adoption and use of this program in a vigorous and methodical way.

An invitation has been issued asking that as many as possible of the industry, whether on the standardization committees or not, especially the handbook owners and those utilizing the specifications, attend the coming conference at Colorado Springs. Every company interested in standardization should be represented.

The labor of preparation has fallen on a comparatively few, notably the engineers, who, as Captain Lucey points out, have really carried the burden of the research and experimental work. What is now required is for the industry at large to take advantage of what has been accomplished and realize the benefits as other industries have done.

In Colorado—

DRESSER COUPLINGS *Dominate*

Church-Fields, Gulf-McElroy Link

Crane County Well Makes 235 Bbls. an Hour. An 1,800-Bbl. Well in Upton. Yates Well Increases Output

By C. D. Lockwood
Staff Correspondent, North and West Texas

FORT WORTH, Tex., June 6.—A 235-bbl. well in Crane County, linking the Church-Fields and Gulf-McElroy Pools, an 1,800-bbl. extension to the Lane area in Upton County, increased production of the Smith-Taylor well in the Yates Pool of Pecos County to 175 bbls. an hour through deepening 21 feet, and increase of P. H. Williams' mile south extension of the World Pool in Crockett County to 341 bbls. as a result of deepening featured the most active period of recent weeks in West Texas. A wildcat south of Anson in Jones County also obtained a showing of oil and gas at 2,489 feet.

In North Central Texas, another prolific area northeast of the Fry Pool in Brown County seems to have been opened by a well flowing 20 bbls. an hour and an extension to production about 3 miles northwest of Albany in Shackelford County was effected.

One of the largest sales of production recorded in recent weeks was made by Tower & McKanna when they sold their 70-acre tract in the Fry Pool and their 40-acre lease on the J. T. Foster farm out of the Thomas Benson Survey, both in Brown County, for a consideration of $500,000. The Shore lease had 15 producing wells and the Foster tract 14 wells with a combined production of approximately 4,100 bbls. of 41 gravity crude, and there are several undrilled locations. Carl Bailey, J. P. McCarty and Ed Peterson of Wichita Falls were the purchasers.

Production Declined

Production declined 3,872 bbls. in the combined North and West Texas districts, the estimated total for the past week having dropped to 282,873 bbls. The Wichita Falls district was responsible for 1,015 bbls. of the decline, the Ranger-Eastland district 2,230 bbls. and the West Texas district only 627 bbls. Very few counties showed any appreciable change in output from the previous week, the most noteworthy having been Brown County with a decrease of 1,385 bbls. due to rather marked declines of some recent completions and failure of new production to offset it. The Ranger-Eastland area also declined 700 bbls. and Pecos County dropped 1,689 bbls. due to continued pinching in of all wells in the Yates Pool where the pipe line capacity is only a little better than 11,000 bbls. Crane County increased 1,146 bbls. due to lack of much decline in the Church-Fields Pool and to some good new production. Crockett County also increased somewhat as a result of Williams' extension to the World Pool and Howard County likewise increased 200 bbls. due to some exceptionally good wells by the Pure Oil Co.

Crane and Upton Counties should register an increase next week, but Pecos County may offset this gain with another drop, as the production of the Yates Pool was down around 10,000 bbls. Saturday. However, this pool's output depends entirely on the desires of the owners. Brown County should climb back up a little next week, but on the whole another decline in the general area may be expected.

Crane County Completions

In Crane County, Gulf Production Co.'s No. 12 J. T. McElroy, NE cor. Section 201, Block F, topped the gray lime at 2,756 feet and the pay at 2,809 feet. At 2,810-30 feet it filled up 1,200 feet in four hours and started flowing steadily at 2,835-40 feet. From 10 p. m. Sunday until 2 a. m. Monday it flowed 940 bbls. or at the rate of 235 bbls. an hour, then was pinched in to 25 bbls. hourly until pipe line connection could be made. This well is nearly half a mile south of production in the Church-Fields Pool and is a mile and a half north of the nearest producer on the McElroy property.

The same company's No. 11 J. T. McElroy, the second location east of the NW cor. of Section 200, and three locations east of No. 11, was shot with 110 quarts from 2,818-2,900 feet and responded with a flow of 60 bbls. an hour. Before the shot it made 565 bbls. in the 24 hours ending Sunday morning. Gulf's No. 13 was drilling by bit at 2,020 feet; No. 14 was drilling at 2,385 feet; No. 15 at 2,305 feet, and No. 16 was fishing at 790 feet.

Landreth Production Co.'s No. 1 Cowden-Anderson, offsetting Gulf's No. 11, topped the brown lime at 2,687 feet and was running 6-inch to 2,700 feet at latest report.

Cromwell & Pickrell's No. 6 University, north offset to Landreth's No. 1, was deepened to 2,865 feet in pay topped at 2,790 feet where it flowed and swabbed 313 bbls.

May Reach 55,000 Bbls.

During the past week 90 wells in the Church-Fields and Gulf-McElroy Pools averaged 44,046 bbls. daily, or 490 bbls. per well. Considering how this production is holding up at present it is probable that the combined pool will reach 50,000 bbls. and possibly 55,000 bbls. when the 18 wells drilling along the strip between the two parts of the pool are completed.

Eastland Oil Co. and Collett obtained another excellent producer by shooting their No. 8 University, NE cor. W NW Section 47, Block 30, with 90 quarts last Wednesday from 2,887-2,950 feet. It had been flowing 1,876 bbls. before the shot an dincreased to 168 bbls. an hour afterward.

Gulf Production Co.'s No. 8 State-Lasseter in Section 35, on the northeast side of the Church-Fields Pool, topped the salt at 1,255 feet and No. 9 at 1,185 feet.

Production of the pool was extended another location toward the Stedham & Thrasher small well, when Church & Fields' No. 1 Duoll-University, SE cor. W half SW, Section 39, was completed for 352 bbls., flowing after a shot of 180 quarts at 2,856-2,980 feet.

Upton County Producers

In the Allie Lane sector of Upton County's producing strip, Gulf Production Co.'s No. 1 Lane flowed 1,806 bbls. during the 24 hours ending 7 a. m., June 3, and was completed. Total depth is 2,014 feet and gravity of the crude is 27 degrees. Humble Pipe Line Co. is taking the output. This well is a north offset to Prairie Oil & Gas Co.'s No. 1 Allie Lane, which was a 500-bbl. completion several weeks ago.

Diagonally southeast across the 40 acres on which Prairie's No. 1 Allie Lane is located, The Texas Company's No. 1 Perry, NW cor., Section 3, topped the lime at 1,879 feet and the pay at 1,965 feet. At total depth of 2,039 feet it was flowing about 352 bbls. and was being swabbed Tuesday. Dixie Oil Co.'s No. 25 Burleson topped the pay at 1,950 feet where it flowed 150 bbls. in 10 hours and was shut down. This is a west offset to Gulf's No. 1 Lane. The Tidal Oil Co. has started a new one in this pool, a west offset to The Texas Company's No. 1 Perry and the Gulf Production Co. has made location for No. 2 Lane, offsetting The Texas Company's No. 1 Perry and Prairie's No. 2 Allie Lane.

In Crockett County, P. H. Williams' No. 1 L. P. Powell, NE cor. Section 53, Block BB, mile south extension to the World Pool, looks considerably better than it did last week. Deepened to 2,590 feet in pay topped at 2,575 feet, it flowed 341 bbls. with the help of agitation and has produced 1,640 bbls. from 9 a. m., May 31, to 7 p. m., June 5, a period of 5 days and 10 hours. It flowed 285 bbls. in the 24 hours ended Saturday morning with the bailer in the hole and attempts were being made to fish it out. There are three 500-bbl. tanks at the well and Humble connected to it with a 4 and 3-inch line.

Yates Well Increases

The Mid-Kansas and Transcontinental's No. 1 Smith-Taylor, northwest extension to the Yates Pool of Pecos County, reported last week as good for 85 bbls. an hour at 1,250 feet, increased to 175 bbls. an hour when deepened to 1,271 feet and gauged 3,577 bbls. June 4. Gauges for the other wells on the same date were as follows: Nos. 1 and 3, 535 bbls.; No. 2, 554 bbls.; No. 4, 1,057 bbls.; No. 1-B, 2,860 bbls.; No. 1-C, 1,934 bbls.; total, 10,517 bbls. Pipe line deliveries from the field to McCamey on that date were 11,275 bbls.

The Smith-Taylor well is the first in this field that is not on land owned by Ira G. Yates and is also on land not in litigation. It is further exceptional in having more gas than any of the other wells, the flow amounting to about 5,000,000 feet.

The Illinois Pipe Line Co.'s 8-inch, paralleling its 6-inch, is expected to be in operation by July 1, and this will give the field an outlet for about 32,000 bbls. daily. United Producers Pipe Line Co. completed its survey for a line to Teon in the Big Lake Field a couple of weeks ago but emphatically announces it is not going to build the line at this time.

The McMan Oil & Gas Co., of Tulsa, Okla., purchased a half interest in 775 acres of leases northwest of the Yates Pool from the Marland Oil Co. for $500,000, half cash and half oil. This acreage is shown on the map in The Oil and Gas Journal for June 2, 1927, page 145, and is situated just south of the Runnels County school land, but separated from it by some acreage held by Humble, Roxana, Simms and Pure Oil Co. McMan Oil & Gas Co. is to have charge of development of the property.

An interesting new location is Mazda Oil Co.'s No. 1 Smith, SE cor. NW, Section 24, Block 194, about 3 miles southwest of the Yates Pool.

Allsman & Bell's No. 1 Pecos River Bed seems to be running high enough to "get the grease." It logged only 10 feet of salt and mud at 450-60 feet and is setting 8-inch in sandy lime at 850 feet. Surface elevation is 2,143 feet. It had two oil showings, one at 430 feet in lime with a hole full of water and another at 740 feet in white lime.

W. R. Shankel's No. 1 Yates, with elevation of 2,200 feet, logged salt and potash from 425 to 565 feet and seems to be running higher than the George A. Henshaw dry hole to the west.

In Schleicher County, General Securities Co. of Dallas, have taken over the Beavers & Leath rig which has been standing for several months.

Jones Wildcat Showing

In Jones County, Campbell and others' No. 1 L. H. Herndon, C W half SW, Section 6, M. E. P. & P. Survey, with surface elevation of 1,832 feet found a good show of oil and gas at 2,489 feet. The bailer was run three times and bailed one-half bailer of oil. It is shut down for orders. This well is about 3 miles south of Anson.

In Pecos County, Texon Oil & Land Co. and Marland Oil Co.'s No. 1 Blakesley, SW cor. Section 90, Block 11, H. & G. N. Survey, struck sulphur water at 2,110 feet and started flowing water at 2,190 feet.

In Shackelford County, Lee & Dingee's No. 1 Meyer-B, Section 1, G. H. & H. Survey, topped sand at 1,030 feet and

Late News from the Fields

OKLAHOMA

In the Pierson district of Pottawatomie County, the Pure Oil Co.'s No. 1 Doyle, NE cor. NW NW, Section 30-7-4, which is a west offset to the Pierce Petroleum Co. and C. J. Wrightsman's discovery well was drilled deeper to a total depth of 3,848 feet and the flow increased from 20 to 25 bbls. an hour. The Hunton lime in this well was touched at 3,780 feet.

The Inter-Ocean Oil Co.'s No. 1 Payne, NW cor. NE SE, Section 12-9-5, in the Earlsboro district of Seminole, flowed 200 bbls. the first 14 hours from the Wilcox sand at 4,306-10 feet.

Atlantic Oil Producing Co.'s No. 2 Fleet, NW cor. NE NW, Section 23-8-6, has a hole full of oil from the Wilcox sand at 4,219-40 feet, and is cleaning out preparatory to being put on air.

Magnolia Petroleum Co.'s No. 4 Sparks, NW cor. SW SW, Section 11-9-5, was drilled deeper to 4,315½ feet, and responded with an increase of 500 bbls. making its production 4,562 bbls.

T. B. Slick's No. 1 Fox, in the Bowlegs district of Seminole is a dry hole with a hole full of water in the Wilcox sand at 4,321-4,410 feet. This well is located SE cor. NW SE, Section 16-8-6.

NORTH AND WEST TEXAS

FORT WORTH, Tex., June 7.—The Tidal Oil Co.'s No. 3 University-F, Section 46, Church-Field Pool, Crane County, was shot last night with 130 quarts at 2,892-2,943 feet and flowed 100 bbls. the first hour afterward. Eastland Oil Co. has ordered 8 new compressors, 80-horsepower type, for its Crane County lease and will begin installing them next week. It already has three direct-driven four-cylinder engines of 125-horsepower and has had no No. 4 on air for some time, making 1,000 bbls. It will put all wells on its 80 acres on air as soon as practicable.

In Upton County, Tidal Oil Co.'s No. 1 Hughes, offsetting Snowden & McSweeney's well topped pay at 2,296 feet and filled up in 4½ hours, making one 30-minute head.

A fourth producing sand in Butcher district of Cooke County, north of Fort Worth, was found by the Pure Oil Co.'s No. 2 Embry, SE cor. their 80 acres in Thomas J. Moss Survey, at 1,405 feet, when the well flowed 220 bbls. in little more than three hours and was shut in for storage. It is about half way between Hooser Pool and Chapman-Lanier extension. The regular Hooser pay, at 1,272-74 feet, was good for only 20 bbls.

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after drilling 4 feet in produced 91 bbls. with no water. This extends production about 1,400 feet. It is about 3 miles northwest of Albany.

NORTH CENTRAL TEXAS

Estimated Production for Week Ending June 1, 1927

Ranger District—	June 1	May 28
Brown County	25,205	26,590
Callahan County	4,525	4,530
Coleman County	1,185	1,100
Comanche County	1,595	1,610
Palo Pinto County	450	460
Ranger	9,610	10,310
Shackelford County	7,630	7,715
Stephens County	10,070	10,095
Total Ranger district	60,270	62,410
Wichita Falls District—		
Archer County	29,000	29,050
Baylor County	100	105
Clay County	775	775
Cooke County	3,740	3,660
Jack County	685	640
Montague County	12,470	12,605
Throckmorton County	2,145	2,560
Wichita County	32,205	32,185
Wilbarger County	13,030	13,150
Young County	12,730	13,165
Total Wichita Falls district	106,880	107,895
Total North Central Texas	167,150	170,395
West Texas District—		
Big Lake Field	26,340	26,380
Crane County	45,306	44,160
Crockett County	1,949	1,620
Ector County	15	15
Garza County	1	5
Glasscock County	36	35
Howard County	3,410	3,210
Jones County	1,931	1,980
Loving County	20	20
Mitchell County	3,909	4,135
Pecos County	13,636	15,325
Scurry County	21	20
Upton County	18,372	18,515
Winkler County	777	930
Total West Texas district	115,723	116,350
Grand total N. and W. Tex.	282,873	286,655
Decrease		3,782

NORTH TEXAS COMPLETIONS

Archer County

Continental Oil Co. and Perkins & Cullum's No. 3 Wilson made 35 bbls. initial from sand at 1,240-46 feet. Pace & Nelson Holding Co.'s No. 7-B Miller is a 10-bbl. well from sand at 904-10½ feet. Royal Petroleum Co.'s No. 6 Wilson did 200 bbls. initial from sand at 1,522-38 feet. L. T. Burns' No. 1 Taber was dry and abandoned at 1,518 feet. Consolidated Oil Co.'s No. 1 Thomas was dry and abandoned at 1,204 feet.

Clay County

Rounsaville and associates' No. 1 Barry Jr., was dry and abandoned at 1,000 feet. Stump & Co.'s No. 1 Boddy was dry and abandoned at 1,300 feet.

Montague County

Arco Oil Co.'s No. 1-B Maddox is a 55-bbl. well from sand at 910-27 feet. Bridwell & Heydrick's No. 1 Crenshaw was dry and abandoned at 3,417 feet. Continental Oil Co.'s No. 9 Jones made 22½ bbls. initial from sand at 897 to 900 feet. Same company's No. 21-A Maddox made 41 bbls. from sand at 906-28 feet. McGinley and associates' No. 1 Gist was dry and abandoned at 1,652 feet. The Texas Company's No. 3-B Maddox was re-completed and is making 40 bbls. daily from sand at 871-84 feet.

Cooke County

Camp Heydrick and Oil Operators Trust No. 5 Kleiss made 165 bbls. initial from sand at 1,664-65 feet. Lynch Stahl and associates' No. 1 Koelzer is a 250-bbl. well from sand at 1,682-95 feet. Oil Operators Trust No. 4 Luke is making 140 bbls. from sand at 1,619-41 feet. Stroube & Stroube's No. 3-A Koelzer is being produced by air and made 340 bbls. the first 24 hours from sand at 1,621-40½ feet.

Jack County

Seaboard Oil & Gas Co.'s No. 5 Cullers made 35 bbls. initial from sand at 2,024-30 feet.

Throckmorton County

Falls Producing Co.'s No. 2 Graham is a 167-bbl. well from sand at 1,796 to 1,812 feet.

Wichita County

Bailey-Damuth Drilling Co.'s No. 12 Waggoner was junked at 1,874 feet. C. H. Clark and associates' No. 4 Waggoner was dry and abandoned at 1,800 feet. H. Cook and R. Reeder's No. 1 Chilson was dry and abandoned at 695 feet. Cooper and McLaughlin's No. 7 Love is a 30-bbl. pumper from sand at 1,814-20 feet. John O'Neil's No. 1-B Allingham was dry and abandoned at 2,255 feet. Petroleum Producers Co.'s No. 8-B Shallow Love is a 12-bbl. well from sand at 488-99 feet. Same company's No. 1 Munger is a 25-bbl. well from sand at 1,045-55 feet. Wilson Drilling Co.'s and associates' No. 2 Kemp and Kemper was dry and abandoned at 734 feet.

Wilbarger County

Consolidated Oil Co. and J. S. Cosden's No. 4 Waggoner is pumping 15 bbls. of oil and 20 bbls. of salt water from sand at 1,248-51 feet. Fain and McGaha Oil Corp's No. 1-K Waggoner was dry and abandoned at 1,250 feet. Milham Corp.'s No. 22-L Waggoner is a 66-bbl. well at 2,381-91 feet. Phillips Petroleum Co.'s No. 6-Y Waggoner is a 10-bbl. pumper in sand at 2,289-92 feet. Same company's No. 1-H Waggoner is pumping 40 bbls. sand at 2,295 to 2,310 feet.

Young County

Holbrook & Woods' No. 1 Davis is a 26-bbl. well from sand at 888-98 feet. Tidwell and Dorsey's No. 1 Gray was dry and abandoned at 1,212 feet. E. C. Stovall's No. 6 fee is flowing 42 bbls. from lime at 3,928-35 feet; total depth 4,035 feet.

WEST TEXAS COMPLETIONS

Crane County

Church & Fields' No. 1 Duoll-University, SE cor. W half SW, Section 39, Block 30, flowed 352 bbls. after a 180-quart shot at 2,856-2,980 feet. Independent Oil & Gas Co.'s No. 2 University-A pumped 155 bbls. at 2,850-2,960 feet.

Magnolia Petroleum Co.'s No. 7 O'Keefe-University was shot with 120 quarts at 3,032-68 feet and flowed 275 bbls. afterward by heads; No. 9 O'Keefe-University flowed 300 bbls. by heads following a 120-quart shot from 2,912-36 feet, total depth 2,966 feet; No. 4 University-Hardwick flowed 800 bbls. after a 150-quart shot from 2,858-2,061 feet; No. 5 was shot with 120 quarts from 2,-883-2,958 feet and flowed 455 bbls. as a result; No. 6 flowed 240 bbls. after a 150-quart shot at 2,873-2,930 feet.

Simms Oil Co. and Atlantic Oil Producing Co.'s No. 2 University-C flowed 2,385 bbls. initial at 2,805-3,002 feet. The Texas Company's No. 1 University was shot with 200 quarts from 2,835-2,-965 feet after which it flowed 500 bbls. initial by heads. Tidal Oil Co.'s No. 2 University-H found pay from 3,055-71 feet but had to be plugged back 5 feet and was shot with 120 quarts from 3,026-57 feet. It pumped 65 bbls.

Crockett County

Carl Cromwell's No. 4 Powell, which was recently deepened to 3,345 feet, is plugging to abandon. George A. Henshaw, Jr.'s No. 1 University has been plugged at 1,890 feet.

Howard County

Magnolia Petroleum Co.'s No. 3 Kelly Chalk made 80 bbls. at 1,660-74 feet. Pure Oil Co.'s No. 2 Otis Chalk made 295 bbls. at 1,665-67 feet; No. 3 flowed 290 bbls. at 1,663-71 feet.

Jones County

Kingston and others' No. 1 Reeves was dry and abandoned at 2,260 feet.

Mitchell County

The California Co.'s No. 2 Swenson topped pay at 2,940 feet and was shot with 320 quarts from 2,930-3,050 feet, total depth 3,080 feet, making 75 bbls.

Pecos County

Buell & Hagan's No. 1 McKenzie was plugging to abandon at 2,495 feet with a hole full of sulphur water. Pecos Big 3 Oil Co. abandoned the locations for No. 1 I. G. Yates and No. 1 Holmes, and its location for No. 1 Robertson was taken over by Moutray Oil Co.

Humble Oil & Refining Co. and Kirby Oil Co.'s No. 1 J. F. McElroy had a hole full of sulphur water at 1,990 feet and was plugging to abandon at 2,015 feet.

Upton County

Bryant and Atlantic Oil Producing Co.'s No. 2 Mrs. M. L. Baker pumped 30 bbls. at 2,270-2,325 feet. Dixie Oil Co.'s No. 24 Burleson pumped 60 bbls., no water, at 1,972-2,030 feet. Humble Oil & Refining Co.'s No. 3 Ricker was dry and abandoned at 2,530 feet.

Independent Oil & Gas Co.'s No. 60 Taylor flowed 165 bbls. at 2,057-60 feet. Roxana Petroleum Corp.'s No. 24 Bowen pumped 27 bbls. from pay topped at 2,163 feet after plugging back from 2,270 to 2,220 feet, shutting the water off, No. 25 Bowen, pumped 25 bbls. at 2,129-73 feet. Texas Pacific Coal & Oil Co.'s No. 8 Lane-A flowed 45 bbls. an hour with no water showing from 1,982-2,030 feet.

Gulf Production Co.'s No. 1 Lane flowed 1,982 bbls. the first 24 hours from pay at 2,001-14 feet.

The Texas Company's No. 19 King, which has been carried down below the regular depth in this area, has been plugged at 3,165 feet.

Brown County

Gordon, White and others' No. 1 Brown was a failure at 1,455 feet. J. K. Hughes Development Co.'s No. 26 Shore was shot with 5 quarts at 1,273-96 feet and made 1,200 bbls. McKanna's No. 12 Shore made 600 bbls. from sand at 1,306-28 feet; No. 19 found sand at 1,305-17 feet and made 1,000 bbls. as a result. Phillips Petroleum Co.'s No. 6 Hickman made 200 bbls. of oil at 1,210-30 feet, total depth 1,232 feet. The location of Root and others' No. 1 Robertson was abandoned. The Texas Company's No. 50 Lowe made 250 bbls. at 1,278-1,301 feet; No. 54 has sand at 1,262-85 feet and made 200 bbls.; No. 58 found sand at 1,295-1,323 feet and made 98 bbls.; No. 60 pumped 320 bbls. at 1,290-1,315 feet; No. 64 flowed 161 bbls. at 1,261-80 feet, total depth 1,282 feet. Jack Ward and others' No. 1 H. Byler was estimated at 60 bbls. from sand at 1,306-14 feet. Wentz Oil Corp.'s No. 17 Shore made 394 bbls. after a 3-quart shot at 1,311-30 feet. Baker and others' No. 1 Smith was a duster at 635 feet. So was Shoup, Jr., No. 1 Ratliff at 1,501 feet.

Callahan County

Beams & Kingwood's No. 1-B Jackson made 15 bbls. initial from sand at 914-19 feet after a 30-quart shot. Navarro Oil Co.'s No. 2 Bennett-Booth found a good show of oil at 1,673-75 feet, but had no results at 1,753 feet. Richardson Brothers' No. 1 Cutbirth was dry at 2,807 feet. Sikes and others' No. 1 Owen was a failure at 1,050 feet. The Texas Company's No. 14 Clifford was also a duster at 2,160 feet.

Eastland County

Morris & Everly's No. 1 Harrell was dry and abandoned at 1,500 feet. Root and others' No. 2 Ray was a failure at 2,050 feet.

Shackelford County

The location of J. S. Cosden, Inc., No. 1 Davis was abandoned. Mid-Tex Oil Co.'s No. 1 Newell had no results at 1,504 feet. Roeser & Pendleton's No. 1 Reynolds, Section 45, has a small show of oil at 1,543-45 feet, but was a failure at 1,597 feet. Tomberlin's No. 1 Harvey was a duster at 2,250 feet.

Stephens County

The location of Gardner Brothers and Collins' No. 3 Cunningham was temporarily abandoned. Humble Oil & Refining Co.'s No. 1 Richardson had sand at 3,801-41 feet and made 10,000,000 feet of gas, total depth 3,900 feet. Mid-Kansas Oil & Gas Co.'s No. 4 Richardson made 105 bbls. initial from sand at 3,718-95 feet, and cleaning out. Texas Pacific Coal & Oil Co.'s No. 70 Binney was shot with 20 quarts and made 42 bbls. initial from sand at 1,874-90 feet, total depth 1,900 feet.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ending June 4

Company, Farm and Location—	Remarks—
ANDREWS COUNTY	
Calvin & Belt's No. 1 Ratliff & Bedford, C NE Sec. 16, Blk. A-54	Location.
J. S. Cosden's No. 1 Ratliff & Bedford, C SE Sec. 9, Blk. 73, Public School Land	Spudded and S.D.
Sartain Oil Co. et al's (was Deep Rock Oil Co.'s) No. 1 W. J. Harris, C SE Sec. 12, Blk. A-44, Public School Land	S.D., 100 ft.
C. B. McKennon's (was Neff et al's) No. 1 J. S. Means, C SE Sec. 12, Blk. A-35, Public School Land	Spudded 30 ft; and S.D.
A. G. Carter & Zweifel's No. 1 Cowden, C SE Sec. 18, Blk. A-53, Public School Land Sur.	Top salt 1,375 ft; drlg., 2,995 ft. in anhydrite.
Maer & Stanfforth's No. 1 W. B. Taylor, C SE Sec. 15, Blk. A-43, Public School Land Sur.	Top salt, 1,650 ft; S.D., 3,501 ft. in red beds, contract depth; will deepen to 4,000 ft.
BORDEN COUNTY	
J. L. Kennedy's No. 1 J. S. York, SE cor. Sec. 332, Blk. 97, H. & T. C. Sur.	Drlg., 785 ft.
Stivers et al's No. 1 Snodgrass, C NW Sec. 476, Blk. 97, H & T. C. Sur	S.D., 3,000 ft; lime, cont. depth.
BREWSTER COUNTY	
McPhail & Kemper's No. 1 McIntyre, SE cor. Sec. 31, Blk. 352, 7 mi. south of Alpine	Drlg., 200 ft.
COKE COUNTY	
Danciger O. & R. Co.'s No. 1 Mrs. Byrnes, Clinton Sur.	Drlg., 430 ft.
Lipan Oil Co.'s No. 1 S. M. Conner, Sec. 71, Blk. 2, H. & T. C. Sur.	S.D., 1,215 ft. for 10-in.
CONCHO COUNTY	
Harry Adams et al's No. 1 Price, C SW Sec. 78, Blk. 71, Alex Gregg Sur.	S.D., 1,040 ft.
Arkansas Fuel Co.'s No. 1 Hartgrove, SW cor. NW Sec. 49, Blk. 70, H. & T. C. Sur., 12 miles E of Paintrock	1,000,000 ft. gas 1,100-10 ft.; 4,500,000 ft. gas 1,142-47 ft.; small show oil in sandy lime 2,165 ft.; show oil 2,454-80 ft.; show oil and 200,000 ft. gas 2,494-2,512 ft.; bailed 8 bbls.; T.D., 2,236 ft; plug. back to gas sand.
Associated Oil Co.'s No. 1 Sam Waring, Sec. 2,035, J. W. Godhardt Sur.	Rebuild. rig; 500 ft; rigging up.
The Exploration Co.'s No. 1 Hartgrove, Blk. 340, J. Schouch Sur.	

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JUDGE BELL RESIGNS AS TEXAS SUPERVISOR

AUSTIN, Tex., June 4.—Resignations of Judge H. E. Bell as chief oil and gas supervisor and B. C. Clardy of San Antonio as deputy oil and gas supervisor and first assistant to Judge Bell, were tendered to the Railroad Commission, coming as a climax to differences between Judge Bell and Railroad Commissioners C. V. Terrell and Lon A. Smith over the bill drafted by the chief oil and gas supervisor amending the oil and gas conservation act.

At the hearing before the house oil and gas committee, Commissioners Terrell and Smith protested against a provision of the bill which would, in effect, have adopted a civil service policy in the appointment of deputy supervisors and field men of the oil and gas division. This provision was stricken out by the committee and the bill as amended was favorably reported.

In his resignation tendered next day, Judge Bell said: "It is clear that our differences along this line are fundamental and irreconcilable."

W. L. JEFFORDS DEAD

CHELSEA, Okla., June 6.—W. L. Jeffords, a veteran oil producer in the shallow sand territory, died at his home here today. Mr. Jeffords, in addition to being a producer, was manager for other oil interests represented in the Rogers County Field. He was noted for his public spirit, and at the time of his death was president of the Northeastern Oklahoma Chamber of Commerce.

PIONEER REFINER DIES

OLEAN, N. Y., June 4.—Robert D. Laughlin, one of Olean's best known residents, died Thursday, May 26, at 7 p. m., following several weeks' illness. Mr. Laughlin was born in Andover, Ohio, March 10, 1845, and came to Olean to reside in 1877. He built the first refinery in the city, being a member of Wing, Wilbur & Co. The refinery was a small concern of only one crude still.

Panhandle Checked by Storage Lack

Operators Trying to Curtail Production Until Pipe Lines Can Handle Supply. Little Tank Building

By James H. Dameron
Staff Correspondent, Texas Panhandle Fields

AMARILLO, Tex., June 6. — Spasmodic developments in wildcat territory and the actions of a few wells in the proven territory featured in the week's news in the Panhandle area but producers were more concerned with the movement under way to curtail production until pipe line companies are in a position to handle the output of the field.

Although the field has three arteries to carry the oil to markets only two are in operation. Little of the Panhandle production is being shipped out in tank cars and a big portion of it is going to available storage which is being filled rapidly and little new storage being built. Only one purchasing company operating in the Panhandle Field is desirous of new connections and that company is taking only a limited number of new connections.

The Gulf and Magnolia are operating a joint line south to the Gulf Coast and the Humble Pipe Line Co. also is operating a line running south. Both lines are moving about 60,000 bbls. daily to the Gulf Coast. A similar amount of crude is going to steel storage and the remainder of Panhandle's approximately 134,000 bbls. of production is being shipped out in tank cars or run to Panhandle refineries.

At the present rate of running crude to storage it is figured all available storage in the field will be filled by the middle or the latter part of July.

The Prairie Pipe Line Co. has a line to Ringling, Okla., but because of eastern buyers' reluctance to run Panhandle crude to their refineries that line is not in operation. Another pipe line company in Panhandle that bought and shipped in tank cars several days ago quit running oil and is out of the market until conditions improve. However, that company agreed to run the producers' oil to storage and pay for it when it was sold and deduct a small storage charge from the selling price.

Several wells in the field are shut down for pipe line connections and producers are being persistently urged not to drill unless they are forced to or until they are assured of pipe line connections. Some producers in Hutchinson County where the crude sells for 95 cents per barrel, expressed their willingness to take less than the posted price for their crude. However, this is being discouraged.

To care for the extra cost of shipping the crude in tank cars it is estimated that the oil would have to be bought for 20 cents under the posted market price. Rather than have the producer lose all, producers are being urged to curtail production.

Production Up 700 Bbls.

Production of the field was up 700 bbls. during the week. The gain came from the Cockrell ranch in Hutchinson County which offset the losses in other areas. The gain there was due to the fact that the McIlroy interests were able to produce gusher wells at a greater rate when their 6-inch pipe line was completed from the wells to their storage on the Dixon Crek tank farm. The daily average production of the field for the past week was estimated to be 134,640 bbls.

Drilling operations in the entire Panhandle area continue to decrease in the total while the number of drilling wells shut down fluctuates widely. At the end of the week there was a total of 389 operations in the Panhandle divided as follows:

First reports, 16; locations carried over from the previous week, 13; derricks being built, 3; derricks standing, 41; rigs, 11; wells drilling, 230; wells shut down, 75. Last week the total operations in the field were 430 with 125 wells shut down. Fifty less wells are shut down this week than last week and a few more wells are drilling this week than were drilling last week.

During the week A. D. Morton obtained a franchise to supply Dalhart with domestic and industrial gas from Moore County thereby creating a market for the Moore County gas production. It is reported that Morton intends to operate both the transmission and distributing companies for the supplying of gas to Dalhart and other towns.

Roberts County Wildcat

One of the most interesting of the Panhandle wildcats was Big Bend Oil Co.'s No. 1 Mrs. H. Ledrick & Sons, Section 7, Block 5-A, Roberts County. The well had a small showing of gas at 4,976-82 feet and at 4,990 feet. The showing is more significant because the showing came through 3,200 feet of water that is in the hole. The formation is a dense shaley limestone with black shale parting.

The most active of the outside wildcat counties in Panhandle is Moore County. That county has eight wildcats and all but one are in some stage of drilling. Phillips Petroleum Co. completed a test in that county during the week which was dry at 3,105 feet.

Gray County Operations

Gray County was again in the limelight with several wildcats. The Empire Gas & Fuel Co.'s No. 1 Meers, NE cor. SE, Section 107, Block 3, has 2,000 feet of oil standing in the hole from lime and granite wash at 2,780 to 2,810 feet and from 3,110-16 feet. The well is making very little gas. Casing is to be set for a test and tankage is being erected. The well is southwest of the Wilcox-Pampa Pool and in an area frowned upon by many.

In the same county, Gladys Gray Oil Co.'s No. 1 Colebank Morse, SW cor. NE, Section 65, Block 25, was drilled to a total depth of 2,905 feet and plugged back to 2,805 feet. A 60-quart shot at 2,775-2,800 feet failed to get results and the well was shot with 160 quarts at 2,430-2,510 feet. Twelve hundred feet of oil rose in the hole and arrangements are being made to make a test.

Rensoul Petroleum Co.'s No. 1 M. Huselby, Section 55, Block 25, is another test in semiwildcat territory attracting considerable attention. The well touched the pay in granite wash at 2,407 feet and is estimated to be spraying 50 bbls. daily. A test is being delayed until the bit is fished from the hole.

Cockrell Ranch Area

Three wells in the Cockrell ranch area were being followed closely at the end of the week. McIlroy Oil Co.'s No. 10 E. Cockrell, Section 4, Block Y, M. & C. Survey, made 400 bbls. from 2,960-80 feet and is to be drilled deeper. Sullivan Oil Co.'s No. 1 E. Cockrell, Section 2, Block Y, swabbed 20 bbls. from 2,851-2,988 feet and is waiting for pipe line connections. First National Oil Co.'s No. 1 Cockrell, Section 3, Block B-3, D. & H. E. Survey, swabbed 175 bbls. the first two hours from a total depth of 3,070 feet; elevation 3,090 feet.

Timms Oil Co.'s No. 1 Lewis, Section 5, Block 23, B. S. & F. Survey, has 1,500 feet of oil in the hole from 2,950-97 feet; elevation 3,095 feet. The well is shut down waiting for pipe line connections.

COMPLETIONS

Carson County.

Six wells were completed in the Roxana Pool. Empire Gas & Fuel Co.'s No. 3-A M. P. Co. fee, SE SW Section 91, Block 4, made 715 bbls. initial from the pay in lime and granite wash at 3,120-52 feet. Same company's No. 2-A M. P. Co. fee, NE SW Section 91, Block 4, is a 260-bbl. well at 3,080-3,172 feet. Magnolia Petroleum Co.'s No. 2 fee 244 is a 170-bbl. well from lime and granite wash at 3,060-3,171 feet. Marland Oil Co.'s No. 3 Bryan, Section 92, Block 4, made 185 bbls. initial from lime and granite wash at 3,110-3,239 feet Prairie Oil and as Co.'s No. 1 E. F. Bryan, Section 107, Block 4, was completed at 2,960 feet as a 10,000,000-foot gas well. The hole was drilled to 3,302 feet in search of oil pay and was plugged back. The first gas was encountered at 2,805 feet. Location was temporarily abandoned for No. 2 E. F. Bryan in the same section.

In the McConnell Pool a few miles southeast of the Roxana Pool, Hughes Development Co.'s No. 2 F. E. Percival, Section 199, Block 3, in a 200-bbl. well from 3,141-45 feet. Marland Oil Co.'s No. 2 C. R. Garner, Section 198, Block 3, was completed as a 25-bbl. well. Parks and associates' No. 2 J. L. Noel, Section 198, Block 3, is a 10-bbl. pumper at 3,140-3,290 feet. Prairie Oil & Gas Co.'s No. 1 J. W. McConnell (Marland) made 260 bbls. initial from 3,160-80 feet. No. 2 on the same lease had the pay at 3,114-49 feet and did 450 bbls. initial

Gray County

The Texas Company's No. 3 G. H. Saunders, Section 130, Block 3, swabbed 197 bbls. the first 24 hours from 2,682-2,860 feet. Pure Oil Co.'s No. 5 H. M. Davis, Section 86, Block 3, swabbed 194 bbls. from granite wash at 3,130-3,210 feet. The well had the first show of oil at 3,130 feet and was drilled to a total depth of 3,218 feet. Wilcox Pampa Oil & Gas Co.'s No. 23 Worley & Reynolds, Section 62, Block 3, swabbed 25 bbls. from granite wash at 2,961-3,035 feet. Location was abandoned for Magnolia Petroleum Co.'s No. 1 J. B. Barrett.

Hartley County

J. E. McKanna's No. 1 E. S. Colling, Section 3, Block L. S., G. & M. Survey, was dry and abandoned at 3,500 feet.

Hutchinson County

Devonian Oil Co.'s No. 7 Johnson Brothers, Tract 4, M. Whitley Survey, is a 25-bbl. pumper at 2,934-78 feet. Herrogan Oil Co.'s No. 1 E. Cockrell, Section 3, Block B-3, flowed 150 bbls. initial after a 500-quart shot at 2,920-3,020 feet. Kelly Petroleum Co.'s No. 1 Johnson Brothers, Section 22, Block Y, is making 30 bbls. daily after a 140-quart shot at 2,865 to 2,915 feet. The well was making 67 bbls. daily and its total depth is 2,957 feet. Location was abandoned for Phillips Petroleum Co.'s No. 1-A J. M. Sanford, Section 80, Block 46, H. & T. C. Survey. Marland Oil Co.'s No. 1-B J. M. Sanford, Section 82, Block 46, topped the pay at 2,983 feet and drilled to 3,008 feet. The formation was shot with 80 quarts and the well completed as a 60-bbl. pumper.

Phillips Petroleum Co.'s No. 2 Johnson Brothers (Dave) Davis Baker Survey, was shot with 130 quarts at 2,846-97 feet and was completed as a 25-bbl. pumper. Phillips Petroleum Co.'s No. 7 J. J. Perkins (George), Section 26, Block 47, topped pay at 2,870 feet and was drilled to 2,905 feet. The well was shot with 120 quarts at 2,863-2,905 feet and is swabbing 125 bbls. daily. The rigs have been temporarily abandoned for Phillips Petroleum Co.'s No. 17 and 18 J. J. Perkins (Martin), both in Section 1, Block XO-2. Phillips Petroleum Co.'s No. 12 Johnson Brothers (Patsburg), Section 67, Block 46, made 200 bbls. after a 120-quart shot at 2,834-76 feet. Same company's No. 5 J. A. Whittenburg (Tinnie) Section 71, Block 46, was shot with 140 quarts at 2,862-2,911 feet and is making 250 bbls. total depth 2,915 feet. Phillips company's No. 3 J. Kingsland, Section 4, Block Y, was shot with 140 quarts at 2,931-81 feet and is making 100 bbls. Phillips company's No. 5 Kingsland (Lansing), Section 6, Block B-4, was

(Continued on Page 133)

WILDCAT OPERATIONS IN PANHANDLE

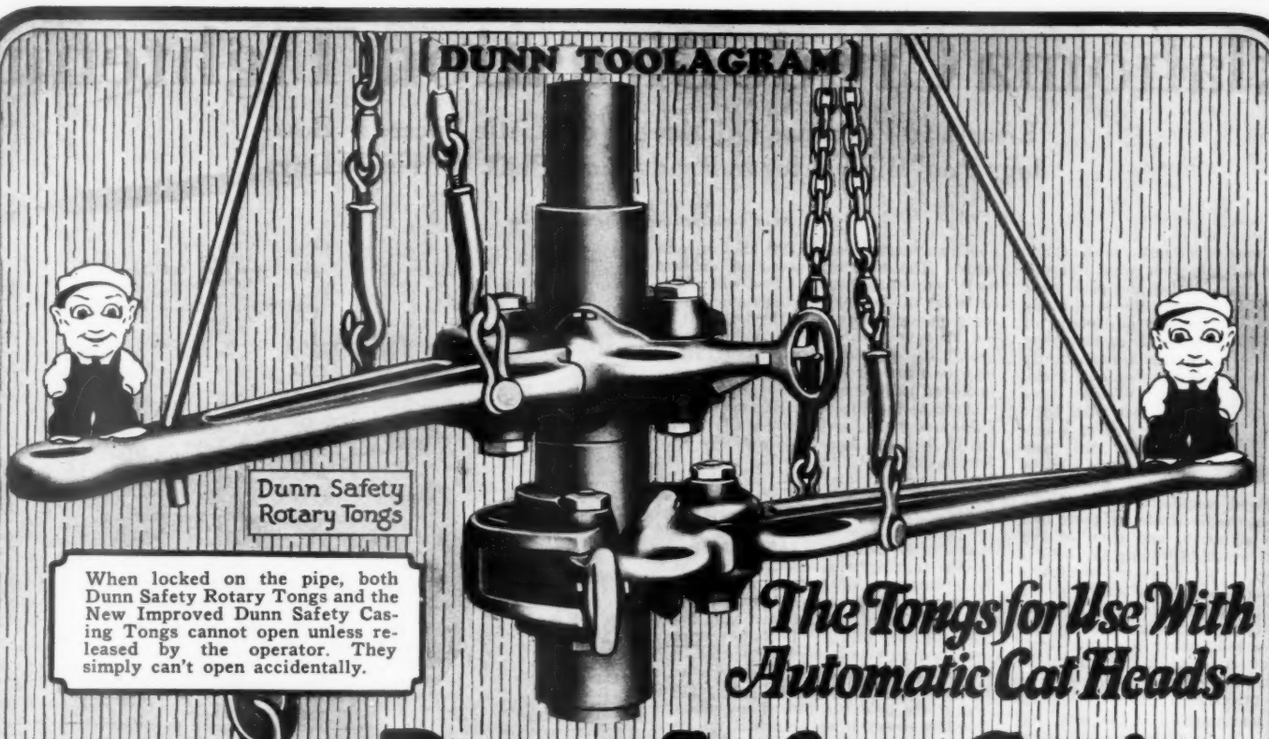
Week Ending June 4, 1927

Company, Well, Farm Name, Section and Block—	Remarks—
ARMSTRONG COUNTY	
Meadows et al's No. 1 E. D. Harrell	Location.
United Oil & Trust Co.'s No. 1 J. P. Reck, Sec. 162, Blk. 4, H. & G. N. Sur.	Spudded and temporarily abandoned.
BRISCOE COUNTY	
C. S. Rice's No. 1 J. C. Anderson, SE cor. NW NW Sec. 22, Blk. B-3, B. S. & F. Sur.	Fishing 1,600 ft.
CARSON COUNTY	
Amatex Dev. Co.'s No. 1 E. S. Polling, Sec. 23, Blk. 2-Y.	Temporarily abandoned 1,980 ft.
Empire G. & F. Co.'s No. 1 C. R. Garner	Top pay 3,100 ft.; total depth 3,140 ft.; flowed 70 bbls. lime and granite wash 3,120-40 ft.; cleaning out.
W. A. Gamble's No. 1-A John Dies, 30 feet N of cen. Lot 7, Blk. 11, Panhandle Townsite, Sec. 69, Blk. 2, T. T. R. R. Sur.	Shut down 1,045 ft. for casing.
Marland Oil Co.'s No. 1 Burnett-J. C NE NE Sec. 121, Blk. 5	Drilling 3,165 ft.; small spray oil 3,072-3,130 ft.; salt water at 3,140-45 ft.; underreaming 6-in. casing at 3,180 ft.
Marston Oil Co.'s No. 1 J. L. Noel	Pulling 6-in. casing 3,064 ft.
Navajo Oil Co.'s No. 1 E. S. Polling, Sec. 32, Blk. 2-Y.	Shut down.
Stubblefield et al's No. 1 E. Cooper, SW cor. NE Sec. 5, Blk. 9, I. & G. N. Sur.	Underreaming 10-in. casing 400 ft.
Vitek Oil Co.'s No. 1 J. H. Eller, NE cor. NW Sec. 200, Blk. 3	Spudded and shut down.
Vitek Oil Co.'s No. 1 C. R. Garner, SW cor. Sec. 113, Blk. 4, I. & G. N. Sur.	Drilling 2,840 ft.; 15,000,000 ft. of gas; first gas at 2,795 ft.
CASTRO COUNTY	
Colorado O. & R. Co.'s No. 1 M. Siemons, SW cor. Sec. 78, Blk. M-17, B. S. & F. Sur.	Rig.
Gulf Prod. Co.'s No. 1 Clements, SW cor. Sec. 27, Blk. M-10-A, Sealy & Morris Sur.	Drilling red rock 4,025 ft. to run 6-in.; top of line 3,445 ft.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE Sec. 333, Blk. M-6, S. K. & K. Sur.	S.D. 510 ft. for casing.
CHILDRESS COUNTY	
Brookins et al's No. 1 Mrs. Givens, 600 feet N and W of SE cor. Sec. 676, W. & M. W. Sur.	Spudded and shut down.
Hoover & Calloway's No. 1 O. L. Tucker, Sec. 786, Haggard Sur.	Rig.
C. L. Sloane et al's No. 1 B. P. Smith, Sur. 49, F. P. Knott lands	Shut down 2,785 ft.

Kingsland (Lansing), Section 6, Block B-4, was

(Continued on Page 133)

DUNN TOOLAGRAM



When locked on the pipe, both Dunn Safety Rotary Tongs and the New Improved Dunn Safety Casing Tongs cannot open unless released by the operator. They simply can't open accidentally.

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Dunn Safety Casing *and* Rotary Tongs

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Due to their positive locking feature, Dunn Safety Rotary Tongs and the New Improved Dunn Safety Casing Tongs have proved to be the most satisfactory tongs for use with automatic cat heads and steam shot guns, as they cannot pull off the pipe. To prove the superiority of Dunn Tongs for this service, ask us to send you any size desired, for trial, without obligation on your part.

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Oklahoma Crude Situation Tightening

Efforts to Purchase Oil Meet With Little Success. Bowlegs Pool Big Factor in Production. Peak Within 30 Days

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

A further note of optimism in the Oklahoma crude oil situation was observed during the past week in the efforts of many outside purchasers of oil to tie up long term contracts, particularly in the Seminole Field. Their efforts have again met with little success, and it is certain that the producers having surplus oil have decided to await improved conditions of price.

Aside from the Seminole oil, there is a tight crude situation, and most of the Burbank oil which is leaving the field is commanding a premium on contracts made last year. At present market prices it seems that Burbank crude is a splendid proposition for those refiners who specialize in lubricating oils made from this grade of crude, and the producers in the field have little desire to dispose of it at current prices.

Summer consumption is the most important item in the Oklahoma situation, and the pipe line companies show an appreciable improvement over this period of last year. The quantity of oil going into storage daily in Oklahoma and Kansas has decreased from 175,000 bbls. to approximately 140,000 bbls., and the production has continued at a high mark, indicating that the crude market is capable of absorbing much more oil than it was at this time last year.

From a point of production, the Greater Seminole area continues to be the most interesting spot in the fields, and during the past week there have been two new high figures attained. One day the field produced 367,000 bbls. and another 373,000 bbls. The increase was due to the Bowlegs Pool entirely, as the other parts of the field registered a decline. The Bowlegs Pool still presents a difficult problem to estimate. During the past two weeks there have been very few wells completed which have made a large quantity of oil by natural flow, but when placed upon the air-gas lift system they have responded with a good output. This indicates that the large pressure is off the field, and from now on its output is to be governed by the air-gas lift. With Seminole City declining at the rate of 60,000 bbls. monthly for the past two months, it seems that this part of the field is due to strike a suspension point from which the drop will be more gentle. A weekly decline of 4,000 or 5,000 bbls. for Seminole City is reasonable from now on.

Earlsboro Future Problem

The Earlsboro section of Seminole should not come into its period of greatest production for another 60 days, and until more is known about Earlsboro, future estimates of production would be only the wildest of guesses.

Considering all portions of the Greater Seminole area, it is logical to believe that its highest production will be attained some time within the next 30 days.

By that time, the Bowlegs Field will probably be at its highest figure, and it is now thought that when Bowlegs reaches its "high," the Seminole area will see its greatest production. Several wells will have been completed at Earlsboro by that time, and the more gentle drop in Seminole City Pool should leave that part of the field making 100,000 bbls. at least. Bowlegs should make very close to 175,000 bbls., Earlsboro 85,000 or 90,000 bbls., and Searight 30,000 bbls. It is now thought that the peak of Greater Seminole will be close to 390,000 bbls.

During the past week, the Bowlegs Field touched the high figure of 147,000 bbls., an increase of 25,000 bbls. in one week. The limited amount of drilling under way in the Searight Pool will afford little for the future and the region to be most closely observed is Bowlegs. It is not thought that Bowlegs will hold its peak for any great length of time, but it may be expected to sustain a daily output over 125,000 bbls. for many months.

Another flash from Creek County was encountered last week when the Skelly Oil Co.'s No. 1 Jones, SE cor. SW NW Section 32-17-10, found a big production in the Dutcher sand at 2,785 feet. The well is flowing better than 5,000 bbls. daily and is pinched in. Reports from the field indicate that the well would make better than 7,000 bbls. daily if permitted to flow wide open. There have been numerous operations of this same character in this part of Creek County, and the conduct of Dutcher sand wells has been very erratic. Pools having only one good well have been discovered, and while the production of the large wells has held up exceedingly well, the remainder of the pool has proved unprofitable. For this reason it is likely that the territory around the new Skelly well will be conservatively drilled.

Seminole Production

The daily average production of the Greater Seminole area for the week ending June 3, by companies and leases, follows:

Bowlegs Pool

Company and lease—	Wells	Prod.
Amerada:		
Rasco	8	11,165
Atlantic O. P.:		
Jones	2	920
Taylor	2	3,025
Fleet	1	1,860
Barnsdall:		
Murrow	1	150
McNac	1	100
Carter Oil Co.:		
Bowlegs	1	3,085
Harjoche	4	4,965
Walker	1	3,545
Wise	4	11,225
Empire Gas & Fuel:		
Lacy	4	4,391
Gypsy Oil Co.:		
Brown	1	84
Walker	5	5,510
Indian Terr. Ill. Oil Co:		
Davis	2	4,121
Goforth	6	11,583
Livingston	7	10,792
Walker	4	7,986
Wilmont	3	2,351
Youngblood	2	4,132
McCulloch Oil Co. et al:		
Bowlegs	1	410
Mid-Cont. Pet. Corp.:		
Baker	2	2,071
Hutke	1	1,000
Minnehoma Oil Co.:		
Bowlegs	1	886
Prairie Oil & Gas Co.:		
Gahagan	1	2,905
Harber	3	3,655
Whitney	2	165
Pure Oil Co.:		
Reed	7	12,537
Roxana Pet. Corp.:		
Taylor	4	2,049
Sinclair Oil & Gas Co.:		
Adams	1	Off
Bowlegs	1	400
Ellen	1	470
Harjo	3	4,325
Jones	1	2,715
Taylor	1	1,845
Walker	2	2,655
The Texas Company:		
Reed	2	6,695
Tidal-Osage Oil Co.:		
Harjoche	1	1,900
Total	94	137,673

Earlsboro Pool

Amerada:		
Anderson	3	7,075
Cowden	1	5,475
Barnsdall:		
Savolka	1	5,585
Smith	1	512
Crosbie et al:		
Bryant	1	3,375
Gypsy Oil Co.:		
Bora	1	Off
Earl	1	12
McFarland	2	1,630
Peter	2	3,252
*State land	4	7,177
Strain	1	Off
Independent-Darby:		
Knappenberger	1	2,114
Magnolia Pet. Co.:		
Bryant	2	6,659
Holmsley	1	6,762
Sparks	1	3,988
Mid-Cont. Pet. Corp.:		
McCumber	2	3,535
Phillips Pet. Co.:		
Graham	3	1,867
Philmack-Marland:		
Dobbs	2	975
Prairie Oil & Gas Co.:		
Baker	1	245
Sinclair et al:		
Foreman	1	Off
Shallow production	30	4,325
Total	62	64,663

Seminole Pool

Amerada:		
Fixico	4	2,092
Killingsworth	4	522
Rentie	4	1,852
Atlantic O. P.:		
N. Cudjo	4	650
J. Cudjo	2	40
Carter Oil Co.:		
B. Carter	2	200
J. Carter	4	115
F. Carter	3	625
R. Cudjo	3	1,235
W. Cudjo	1	595
Gilliland	1	610
Grisso	8	2,105
Knappenberger	3	1,462
M. Killingsworth	9	16,932
G. Killingsworth	3	1,780
Lukes	5	4,755
Simpson	2	580
Strothers	2	5,440
Vierson	4	1,575
Barnsdall Oil Co.:		
Carter	9	4,767
Jones	3	2,535
Empire Gas & Fuel Co.:		
Gross	2	1,010
Wilson	3	1,694
Gypsy Oil Co.:		
Butler	3	1,172
Carter	8	2,340
Fixico	5	180
Harjo	2	1,061
Wolf	6	2,200
Cudjo	1	10
Independent Oil & Gas:		
P. Fixico	4	400
Independent-Garland:		
T. Fixico	8	1,562
Independent and Inter-Ocean:		
Jones	4	538
Harjo	1	Off
Indian Terr. Ill. Co.:		
Bowlegs	10	4,158
Goodin	4	877
Harjo	4	882
James	4	1,135
Marcy	1	Off
Reed	3	Off
Kingwood-Roxana:		
Johnson	5	2,886
Magnolia Pet. Co.:		
Franks	2	1,580
Mid-Cont. Pet. Corp.:		
Rentie	9	2,275
Tayeche	7	650
Mid-Kansas Oil & Gas Co.:		
Pressley	1	Off
Johnson	1	920
Philmack-McCulloch:		
Butler	2	2,150
Phillips Pet. Co.:		
Strothers	3	1,360
Prairie Oil & Gas Co.:		
Gross	5	80
Spencer	1	20
Strothers	7	3,130
Mason	1	1,390
Pure Oil Co.:		
Strothers	17	5,071
Strothers-B	3	5,690
Roxana Pet. Corp.:		
Harber	2	737
Lashley	2	315
Sinclair Oil & Gas Co.:		
Dicey	1	785
Carter	2	40
Cudjo-A	6	1,435
Cudjo-B	3	920
†Fixico	4	1,215
T. B. Slick:		
Born	1	Off
Cudjo	3	1,713
Franks	8	2,458
Giblet	1	2,637
Superior Oil Co.:		
Cudjo	4	3,035
Mayhue	1	25
Tidal-Osage Oil Co.:		
Carter	5	2,780
Fixico	7	1,935
Harjo	7	165
Mahardy	5	1,150
Tayeche	2	2,780
Turman Oil Co.:		
Cudjo	4	1,345
Grisso	1	604
Jones	4	4,652
Total	290	127,617

Searight Pool

Carter Oil Co.:		
Davis	5	7,500
Frazier	4	9,125
Kiker	1	40
Scott	1	40
Stewart	1	Off
Gypsy Oil Co.:		
Cudjo	1	753
Mid-Cont. Pet. Corp.:		
Grayson	5	7,060
Saloche	1	45
Prairie Oil & Gas Co.:		
Cannon	1	20
Carter	1	20
Houck	1	15
Kincaid	7	6,230
Pure Oil Co.:		
Aldridge	1	871
Roxana Pet. Corp.:		
Strothers	1	334
Searight et al:		
Youngblood	2	Off
Sinclair Oil & Gas Co.:		
Polly	2	1,255
Prairie Oil & Gas Co.:		
Weimer	1	Off
Twin State Oil Co.:		
Jennings	1	865
H. F. Wilcox Oil & Gas Co.:		
Chupco	2	2,100
Total	40	36,273
Grand total	486	365,626

By Sands

Shallow	31	4,345
Hunton	55	8,200
Wilcox	400	353,081
Total	486	365,626

*Half Amerada.
†Half Transcontinental.

Canadian County

J. V. Bailey and others' No. 1 Robinson, C NE NW, Section 1-10-6w, is spudding.

Carter County

Humble Oil & Refining Co. is building the rig for No. 5 Dixon, NW cor. Sec-

WILDCATTING IS GOING AHEAD IN FARMINGTON, N. MEX., DISTRICTS

By Special Correspondent

FARMINGTON, N. Mex., June 4.—While pipe line runs have been reduced in the San Juan Basin Field in the past few weeks in harmony with the general trend throughout the country, wildcatting has gone ahead with more vigor than would be expected under the prevailing producing conditions. Some of the smaller concerns who must finance as they go along complain it is now harder to interest investors than when crude prices are high. Most of the concerns operating here are financed for the operations they contemplate.

After a suspension of development operations in this field for more than a year the Huntington Park Petroleum Corp. has started activities to resume drilling. After a visit to this field by C. W. Whipple accompanied by several California associates they announce they are shipping in a steel derrick and tools and will put the well which was brought in a small producer over a year ago at 1,640 feet, down to the Mesa Verde sand. Their acreage is in the Blanco district and the first operations when work is resumed will be on Section 29-30-9.

J. Warren Miller left last week for Los Angeles to make final arrangements for drilling the Hickerson and Harrison permits in the Blanco district. This acreage is about 6 miles north of the Union Oil & Mining Co. well, which with tools in the hole for several months shows small production.

Long Fishing Job

The Union Oil & Mining Co., operating in the Blanco district, Section 8-29-9, the first of the week succeeded in recovering the string of fishing tools lost recently and is again fishing for the string of fishing tools lost several months ago. The work of recovering the lost tools was such as to shut off the gas supply from the well which is now using coal again. They are going to drill down beside the tools in the hole in an effort to lift them. There are still two strings of tools in the hole.

The Mid-Continent Oil Co., operating

(Continued on Page 118)

The oil industry is a ten billion dollar structure Like farming, its relation to national prosperity is direct If the oil business is sick, general business feels it If it is healthy, manufacturers benefit in a thousand different lines—from dishpans to derricks

All business should be sympathetic toward the oil industry in its efforts to solve its present serious problem of over-production of crude

The solution:

Less oil out of the ground
More gasoline out of the oil

And the way to get the most gasoline out of the oil is with The Cracking Process

Universal Oil Products Company
Owner of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

tion 30-1s-3w. Magnolia Petroleum Co. is building the rig for No. 2 Morris, SW cor. SE NE, Section 21-2s-3w. The rig is up for No. 9 Swartz, NE cor. NW NE, Section 26-2s-3w.

Magnolia Petroleum Co.'s No. 7 Hardin, NE cor. Section 19-1s-3w, is making 77 bbls. from broken sand at 3,150-3,467 feet. Carter Oil Co.'s No. 2 Pierce, SW cor. Section 8-2s-2w, is making 15,000,000 feet of gas from sand at 1,938-77 feet. Atlantic Oil Producing Co.'s No. 1 Gladney, SE cor. NE NE, Section 16-2s-2w, was completed for 75 bbls. in sand at 1,336-70 feet. Magnolia Petroleum Co.'s No. 11 Adams, SE cor. NE NE, Section 10-2s-3w, was completed for 30 bbls. in broken sand at 2,781-3,022 feet. Magnolia Petroleum Co.'s No. 14 J. Lohman, SE cor. SW SE, Section 23-2s-3w, is making 75 bbls. from sands at 2,396-2,420 feet and at 2,446-56 feet. C. R. Smith's No. 6 fee, NE cor. NW, Section 26-2s-3w, was completed for 35 bbls. in sands at 3,596-3,606 feet and 3,606-10 feet. Amerada Petroleum Corp.'s No. 11 Criner, NW cor. NE NW, Section 20-5s-1e, has been abandoned at 2,610 feet.

Comanche County

Doctor Daynham's No. 1 King, SW cor. NW NE, Section 12-1-13w, has been abandoned at 910 feet.

Creek County

Olean Petroleum Co. made location for No. 5 McGilbray, SW cor. NE NE, Section 30-14-8. J. B. Grieves' No. 1 Bartlett, NE cor. Section 13-19-8, an old well to be deepened, is fishing at 2,170 feet. The rig is up for No. 1 Porter, SE cor. Section 12-19-8. Reichard and others' No. 1 Grayson, NW cor. SE, Section 14-19-7, is spudding. Kennedy & Horner's No. 1 Sizemore, SW cor. NE, Section 5-18-12, is spudding. C. G. Tibbens' No. 1 Colbert, NE cor. Section 8-12-12, is spudding. Future Development Co. and others have the rig on the ground for No. 1-A Behen, NE cor. SE NW, Section 2-16-11.

Sinclair Oil & Gas Co.'s No. 15 Long, NW cor. SW SW, Section 9-18-7, had sand at 2,512-21 feet and is making 90 bbls. Silurian Oil Co.'s No. 23 W. Starr, CWL E half NE NE, Section 17-18-7, is making 200 bbls. from sand at 2,483-2,516 feet, also considerable water. Burk Greis Oil Co.'s No 2 Strip, SE cor. NW SW, Section 16-17-8, is dry and abandoned at 3,507 feet. Shaffer Oil & Refining Co.'s No. 4 Morrison, NE cor. SW SW, Section 16-17-8, was shot with 10 quarts and is making 10 bbls. from sand at 3,449-98 feet. No. 1 Wright-Bruner, CEL SE, Section 17-17-8, was completed for 140 bbls. after shooting 20 and 40 quarts in sand at 3,434-78 feet. F. R. Billingslea's No. 1 Lewis, SE cor. SW SW, Section 10-15-8, is making 51,000,000 feet of gas from sand at 3,185-97 feet. Lima Oil & Gas Co.'s No. 4 Benjamin, NW cor. SE SW, Section 30-15-8, has been completed for 24,000,000 feet of gas in sand at 3,257-68 feet. Pure Oil Co.'s No. 2 Mitchell, NW cor. SW NW, Section 29-14-8, is a 200-bbl. well in sand at 3,435-43 feet. Vaughn & Wheeler's No. 6 Allen, NE cor. SE SW, Section 27-18-10, lost the hole at 2,380 feet and was abandoned. O. N. White and others' No. 1-A Tiger, NE cor. SW NW, Section 14-18-11, has been abandoned at 700 feet. Redgraves and others' No. 2 Snow, SW cor. SE SE, Section 15-18-11, had the Dutcher sand at 2,140-60 feet and after a shot of 120 quarts it made 45 bbls. C. G. Tibbens' No. 1 Grayson, SE cor. Section 5-18-12, is making 250,000 feet of gas from the Red Fork sand at 1,763-71 feet. Carter Oil Co.'s No. 1 Griswell, SW cor. SE SW, Section 1-17-10, is dry in the Wilcox sand at 2,997-3,002 feet. Elson and Amerada Petroleum Co.'s No. 1 Wilcox, NE cor. NW NW, Section 12-17-10, is producing 648 bbls. from the Dutcher sand at 2,482-96 feet. J. H. Wright's No. 10 Dawson, CEL SW, Section 24-17-10, is a dry hole in the Turkey Mountain sand at 3,412-32 feet. Thompson & Black's No 2 Wilson, NW cor. SW, Section 16-17-11, has been completed for 7,000,000 feet of gas in the Taneha sand at 1,891-1,941 feet. Williams & Bell's No. 1 Allen, SW cor. NW NE, Section 36-16-9, had a hole full of water in both the Wilcox sand and the Turkey Mountain, and is abandoned at 3,480 feet. J. M. Kessler & Logan's No. 1 Morton, SE cor. SW NW, Section 27-14-10, had a show of oil in the Wilcox sand 3,308-14 feet and was abandoned at 3,352 feet. Empire Gas & Fuel Co.'s No. 3 Walker, SE cor. NW SW, Section 32-14-10, was completed for 60 bbls. in the Dutcher sand at 2,790-2,806 feet after plugging back from the Wilcox sand at 3,402-30 feet where water was encountered. T. B. Slick's No. 6 Jones, SW cor. NE SW, Section 32-14-10, is making 50 bbls. from the Wilcox sand at 3,410-22 feet.

Garfield County

Beopple and others' No. 1 Mathis, NE cor. SW SW, Section 20-22-3w, is underreaming casing at 2,830 feet. Sinclair Oil & Gas Co.'s No. 33 "West" Kisner, SW cor. NE NW, Section 19-22-3w, Garber Pool, is being deepened and now drilling out cement at 2,680 feet, the present total depth being 4,840 feet.

Grady County

Watchorn Oil & Gas Co.'s No. 4 Pettitt, C SW SE, Section 11-4-8w, an old well, is being deepened and now bailing from sand at 2,498-2,505 feet. Carter Oil Co.'s No. 1 See-Hogue, SE cor. NW NE, Section 21-3-5w, Carter-Knox Pool, is drilling at 100 feet.

Garvin Drilling Co.'s No. 1 Pursley, SW cor. NE SW, Section 16-4-6w, has been abandoned at 3,009 feet. Gypsy Oil Co.'s No. 1 Hogue, NE cor. Section 20-3-5w, Carter-Knox Pool, is making 6,000,000 feet of gas from sand at 2,408-09 feet. Carter Oil Co.'s No. 3 E. Nation, SW cor. NE SE, Section 34-3-5w, has been completed for 25,000,000 feet of gas from sand at 2,234-35 feet. No. 3 Scharmack, NW cor. SW SW, Section 35-3-5w, drilled to 1,505 feet and was plugged back to sand at 1,514-25 feet from which it is making 5 bbls. No. 8 Garvin-Simms, SE cor. NE NW, Section 2-2-5w, drilled to 3,007 feet, was plugged back to 1,466-77 feet and shot with 25 quarts and made 10 bbls.

Jefferson County

Woods Petroleum Co.'s No. 1 Hays, NE cor. Section 23-7s-7w, has been abandoned at 2,504 feet.

Kay County

The Texas Company has the rig up for No. 1 Woods, NE cor. NW NW, Section 30-27-1w. National Refining Co. made location for No. 1 Buessing "B," NW cor. Section 21-27-1. Gypsy Oil Co. is building the rig for No. 3 Chambers, SW cor. SE NE, Section 9-25-2w, Thomas Field.

Wentz Oil Corp.'s No. 1-G Andrews, NW cor. NE, Section 8-28-1w, has been completed for 3,500,000 feet of gas in sand at 1,582-92 feet. McCullough and others' No. 1 Love, SE cor. SW SW, Section 31-27-1w, is dry and abandoned at 3,125 feet in shale. National Refining Co.'s No. 1 Buessing "A," NE cor. SW SW NW, Section 21-27-1w, has been completed for 250,000 feet of gas in shallow sand at 858-70 feet.

Kingfisher County

Bu-Vi-Bar Petroleum Co.'s No. 1 Kelly, SW cor. SE SW, Section 16-19-5s, is being deepened and now drilling at 5,335 feet.

Muskogee County

O. T. Gilbertson and others' No. 3 Cherry, C SW NW, Section 27-14-16, is drilling at 830 feet. J. L. Selby is rigging up machine for No. 6 H. Brown, CSL SW NW, Section 35-15-15. W. R. Sommerville has a machine on the ground for No. 1 Rector, SW cor. SE, Section 8-15-17. The rig is up for No. 3 T. Lewis, CWL NW NE, Section 17-15-17. H. E. Williams' No. 2 M. Sango, CEL NE NW, Section 17-15-17, is spudding. Gypsy Oil Co. has the machine at the location for No. 21 M. Sanders, CNL SW SW, Section 34-15-18.

Harry Smith's No. 5 Pouncil, NE cor. SW NE, Section 25-15-15, has been completed for 2,500,000 feet of gas in sand at 695-711 feet. J. L. Selby's No. 2 Warner, NE cor. SE SW NE, Section 17-15-17, has been abandoned at 1,462 feet in lime. D. C. Lampton and others' No. 2 Carlina, SW cor. NW SW, Section 9-15-18, has been completed for 5,000,000 feet of gas in sand at 742-65 feet. C. M. Bradley's No. 5 Goodrich, NE cor. SW NW SW, Section 5-14-19, is making 100 bbls. from sand at 703-25 feet. W. J. Metzger and others' No. 4 Crittenden, NE cor. SE NE SE, Section 6-14-19, was shot with 30 quarts in sand at 745-63 feet and completed for 40 bbls.

Okfuskee County

Joe Hartman has built the rig for No. 1-A Holmes, C SE SW, Section 27-12-11. Ted Savoie and others' No. 1-A Hopwood, C SE SW, Section 11-11-11, is spudding.

A. D. Morton's No. 1 Grayson, NW cor. SE, Section 26-11-11, is dry and abandoned at 3,581 feet.

Okmulgee County

Jordan & Thompson's No. 1 Thornburg, C NW NE Section 27-15-12, is making 2,500,000 feet of gas from sand at 1,919-33 feet after plugging back from the Wilcox sand at 2,746-76 feet. French & Garrett's No. 1 Strip, NW cor. NE NE, Section 7-11-12, is producing 10 bbls. from sand at 1,378-81 feet.

Osage County

Indian Territory Illuminating Oil Co. is rigging up to deepen No. 227, SW cor. NE, Section 1-25-11. The rig is being built for No. 365, SE cor. NE NW, Section 1-25-11.

Skelly Oil Co.'s No. 6, SW cor. NW SW, Section 27-27-6, in the Burbank Pool, was completed for 1,440 bbls. after a shot of 90 quarts in the Burbank sand at 2,882-2,960 feet. George Parker's No. 2, NW cor. NE SW, Section 28-26-6, made 316 bbls. after it was shot with 120 quarts in the Burbank sand at 2,944-93 feet. No. 3, NE cor. NW SW, Section 28-26-6, made 330 bbls. after a shot of 120 quarts in the Burbank sand at 2,920-70 feet. Barnsdall Oil Co.'s No. 1, CSL SW NE, Section 19-25-6, has been abandoned at 2,950 feet with a hole full of water. Oklahoma Natural Gas Corp.'s No. 767, SE cor. NE, Section 27-21-10, is making 500,000 feet of gas from the Bartlesville sand at 1,629-40 feet. Winona Oil Co.'s No. 1, SE cor. NE SE, Section 17-21-11, is dry and abandoned at 2,417 feet. J. C. Stine's No. 7, NW cor. SE SE, Section 9-21-12, is producing 10 bbls. after a shot of 80 quarts in the Bartlesville sand at 1,312-32 feet. Sand Springs Home's No. 1, SW cor. Section 22-20-11, drilled to total depth of 2,045 feet and was abandoned.

Payne County

Twin State Oil Co. has the rig on the ground for No. 1 Douglas "B," SW cor.

(Continued on Page 92)

ROXANA SHUTS DOWN DRILLING IN THE CHURCHILL POOL, KANSAS

By J. L. Dwyer
Staff Correspondent, Kansas Fields

The most important news of the week in the Kansas fields was that the Roxana Petroleum Corp. has shut down its drilling wells in the Churchill Pool of Sumner County. This company now has 40 producing wells in the pool, and has completed all necessary offset wells. It is reported that drilling in this area will not be resumed until improved price conditions are in evidence.

T. C. Johnson's No. 1 Kraft, NE cor. SW Section 9-16-15, Barton County, was a failure in the Oread lime and now has a showing at 3,534 feet in a formation thought to be Ordovician. It will be carefully tested out later in the week. The hole had a bad cave which is being cemented off.

Another interesting wildcat well is Winters & Harwood's No. 1 Cowman, in Section 17-17-4, northeast of Lost Springs. This well topped the Devonian shale at 2,430 feet and is thought to be running very high. It had good oil showings from 2,348-94 feet, and is regarded as having good possibilities in the Siliceous lime.

Roxana Petroleum Corp.'s No 1 Schmitz, in Section 5-28-1w, Sedgwick County, will test out a showing found in lime at 2,785 feet.

Butler County

Schwartz and others' No. 1 Hazlett, SW cor. SE NW, Section 19-25-5, is drilling at 723 feet. Phillips Petroleum Co. made location for No. 2 Sarah, SE cor. NE, Section 4-27-6. Patton and others made location for No. 4 Shriver, SE cor. SW SE, Section 33-27-6. Magnolia Petroleum Co. is building the rig for No. 3 Shriver, SW cor., Section 34-27-6. The rig is also being built for No. 6 Blakeman, NW cor. NE NE, Section 4-28-6.

Powell and others' No. 1 Stone, NE cor. SW, Section 25-24-7, is dry and abandoned at 2,743 feet. Empire Gas & Fuel Co.'s No. 1 Hutchinson, SW cor. NE, Section 34-27-5, drilled sand 2,695-2,723 feet then plugged back to 2,721 feet and after shooting 60 quarts made 230 bbls. Blue Stem Oil Co.'s No. 4 McLean, NW cor. SE SW, Section 5-27-6, was completed for 50 bbls. in sand 2,700-16 feet. Patton and others' No. 2 Shriver, SW cor. SE SE, Section 33-27-6 is making 200 bbls. from sand 3,090-96 feet. Dixie Oil Co. and others' No. 1 Weaver, NE cor. SE SE, Section 1-28-5, is a dry hole at 3,172 feet. Mid-Kansas Oil Co.'s No. 6 Blakeman, SE cor. SW, Section 3-28-6, has been abandoned at 3,089 feet.

Cowley County

Trees Oil Co. has the rig on the ground for No. 1 Titsworth, SE cor. NW, Section 30-30-3. Carter Oil Co. has the rig on the ground for No. 1 Baird, SE cor. SW NE, Section 17-34-3. Forrester and others' No. 1 Countryman, NE cor. NW, Section 4-33-7, an old well deepened to sand 2,760-2,819 feet is making 40 bbls. Gypsy Oil Co.'s No. 1 Beeks, NW cor. SW, Section 4-34-3, has been abandoned at 3,986 feet.

Chase County

White Eagle Oil & Refining Co.'s No. 1 Lipps, C NE NE, Section 31-18-7, is making 2,000,000 feet of gas from sand 1,141-48 feet.

Chautauqua County

Griffen, Bell and others made location for No. 4 Oliver, C NW SW, Section 1-32-10.

Coffey County

Gasche and others made location for No. 1 Flaherty, SW cor. NW NW, Section 26-22-12.

Geary County

Manhattan Oil Co. has the rig on the ground for No. 1 Foster, SW cor. NE NW, Section 26-13-5.

Greenwood County

Empire Gas & Fuel Co. is rigging up for No. 1 Demler, NW cor. NE, Section 25-22-12. York State Oil Co. is building the rig for No. 2 Patterson, NE cor. SW NW, Section 36-23-11. McGinnis and others' No. 1 Furguson, SE cor. SW, Section 4-27-11, is rigging up.

Aikman and others' No. 1 Waymire, SW cor. NE NE, Section 22-22-13, is dry and abandoned at 1,903 feet. Parrish and others' No. 1 Smith, NW cor. NE SW, Section 5-24-12 was shot with 60 quarts and made 10 bbls. from sand 1,790-1,806 feet. Sharpless and others' No. 1 Thrall, NW cor., Section 7-24-12, has been abandoned at 1,828 feet. Cross and others' No. 1 Hoover, NE cor. SE, Section 36-24-12, was given a shot of 40 quarts in sand 1,596-1,611 feet and completed for 25 bbls.

Lyon County

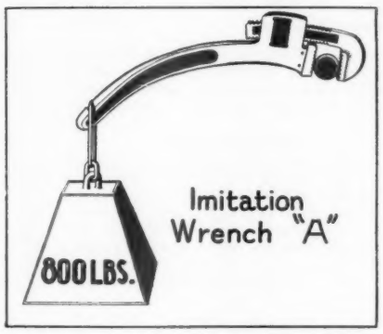
Gasche and others have a machine on the ground for No. 1 French, NW cor. SW, Section 26-21-12. Culp and others' No. 1 Bibermyer, SW cor. SE, Section 25-19-10, is dry and abandoned at 2,163 feet. Leonard Petroleum Co.'s No. 1 Hooper, SW cor. SE, Section 30-21-12, has been abandoned at 1,958 feet.

Marion County

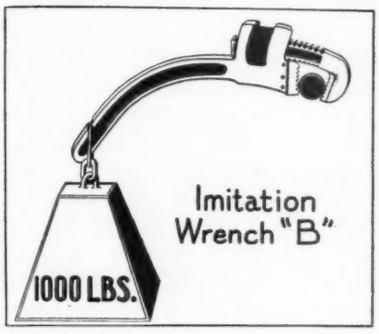
Frank, Propp and others have built the rig for No. 1 Buckley, SE cor. SW, Section 18-19-4. Hartman & Skaer and the Tulsa Oil Co.'s No. 1 Stafford, NE cor. NW SW, Section 28-20-4, had 1,000,000 feet of gas in sand 2,134-35 feet but found water at 2,578 feet and was abandoned.

Rice County

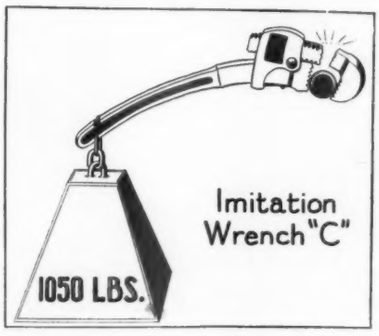
Independent Oil & Gas Co.'s No. 2 Miller, NW cor. NE NE, Section 3-21-6w made 1,164 bbls. the first 24 hours from sand 3,364-86 feet.



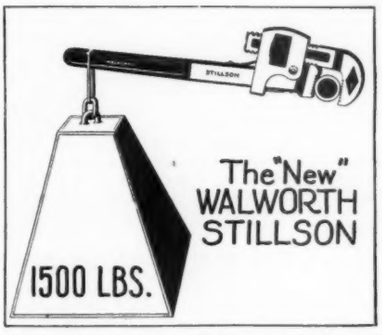
At 800 lbs. "Wrench A" was badly bent.



At 1000 lbs. "Wrench B" was useless.



The jaw of "Wrench C" broke off at 1050 lbs.



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(We hadn't enough weights to bend the STILLSON)

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But at *1500 pounds* the "new" Walworth STILLSON was still straight and strong. The test failed at this point because we ran out of weights. The Walworth STILLSON still held on as if nothing had happened.

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Another Good Well at Pleasant Hill

Other Tests Ready to Drill Into Sand in Pool Which Is Attracting Attention of Louisiana-Arkansas Operators

By Neil Williams
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., June 6.—Developments are coming thick and fast in the Arkansas and North Louisiana district's newest oil field—Pleasant Hill, in northern Sabine Parish, Louisiana. A dry hole drilled a week ago has been followed the past two days by the bailing in of a good producer, a blowout in another test, and as the week opens, two additional tests are drilling out plugs preparatory to going into the sand and bailing. The latest addition to wells in the field up to today is Arkansas Fuel Oil Corp.'s No. 7 Logan, Section 33-10-12, which was bailed in flowing at the rate of 450 bbls. of clean high gravity oil daily from a total depth of 3,238 feet. It marks the sixth producer in a field which has held the attention of operators here for three months. However, holding true to form of other wells in the district, No. 7 is dropping in production, and in the 24 hours up to this morning gauged 315 bbls. This characteristic of wells at Pleasant Hill has been a serious drawback and is promising only a slow paying out field. Louisiana Oil & Refining Corp.'s No. 1 Logan, Section 28-10-12, in the same district, blew out at a depth of 3,144 feet while the casing was being set. It made a head of about 20 bbls, and had about 1,400 feet of oil in the hole. The operators, however, have decided to drill this test deeper and this afternoon were coring below 3,193 feet. If completed as a producer, this will be the seventh well in the field. The latter test is from a half to three-quarters of a mile northwest of the Arkansas Fuel Oil Corp.'s No. 7, and if a good producer it will make an important extension of the field.

Operators generally have felt that production would trend more to the south and southwest of the Louisiana's test, as wells to the north of the discovery well have had a tendency to thin out. Dry holes on the north, however, have been farther east except William Sebastian's No. 1 Sebastian, Section 11-10-13, which is about 5 miles northwest in DeSoto Parish. This test, however, still is drilling, and today was down nearly 3,400 feet. Woodley Petroleum Co.'s No. 1 Robinson, Section 33-10-12, just south of the discovery well of the field and which tested dry twice last week, apparently limiting the field in that direction, also is continuing drilling and today was down past 3,315 feet. Arkansas Fuel Oil Co.'s No. 1 Logan, Section 28-10-12, and No. 1 Rembert, Section 5-9-12, are drilling in.

Dolet Hills Producer

A new well in the Dolet Hills area of DeSoto Parish, reported flowing 1,000 bbls. daily, caused a rush of scouts and operators there Saturday. This well, which was Hoosier Oil Co.'s No. 1 Lanier, Section 5-11-11, was completed making from 150 to 200 bbls. from a sand at 2,695 feet. Wells in this district are of particular interest because the oil runs comparatively high in gravity, that in the Hoosier well being 38.2 degrees.

Dolet Hills Field is just south and west of the main Bull Bayou area, but is regarded a strictly wildcat territory because of the peculiarity of the sands in which offsets are dry holes. It has produced several wells flowing at the rate of 1,000 bbls. daily, but in every case the flow in a few hours has dropped to nothing or at least to a comparatively few barrels.

This situation is explained in the high gas pressure which makes the wells look like gushers when coming in, but when the head is off the oil flow quickly settles. The Hoosier well is one of the farthest southwest in the field and is causing considerable interest in this district.

Semiwildcat districts of DeSoto and Red River Parishes in the Bull Bayou and Crichton area also got two other producers earlier in the week in The Texas Company's No. A-12 Wemple, Section 2-12-12, DeSoto Parish, and the Gulf Refining Co.'s No. 23 Kennedy, Section 24-13-11, Red River Parish. The former is making 26 bbls. daily from a depth of 2,438 feet and the latter 38 bbls. from a depth of 2,551 feet.

Union County, Arkansas, also got another wildcat well as a late development of the week with the placing on the pump of Rovenger Oil Corp.'s No. 1 McCain, Section 4-17-14. It is making 30 bbls. daily, of which 85 per cent is salt water. This well is north of the main Lawton-Urbana district.

These were the only districts in which there were any favorable developments from a production standpoint and interest on the whole continued at low ebb. Only in few instances are operators making any concerted play for new oil. The Pleasant Hill district apparently is to be proved up rapidly and a few interesting tests from a salt dome angle are under way, particularly in Winn and Bienville Parishes, but practically all the small amount of new production which is being added in this division is of a semiroutine nature.

Scarcity of Crude

Despite the overproduction of crude in other sections of the Mid-Continent and country as a whole, the scarcity of crude available in Arkansas and North Louisiana is an important angle which is preventing a complete cessation of new operations and wildcat drilling. It is generally felt that with the first sign of an improvement in the market situation there will be a play not experienced here in several years.

Production in this division is only barely holding its own as indicated in the following table showing the oil produced by fields the past week:

North Louisiana	
Caddo light	10,070
Caddo heavy	4,480
Homer	5,165
Haynesville	7,720
DeSoto and Red River	3,885
Elm Grove	685
Bellevue	1,400
Cotton Valley	5,650
Urania	8,050
Pleasant Hill	390
Total	47,495
Arkansas	
El Dorado	6,310
Lisbon	3,815
Smackover light	11,280
Smackover heavy	88,620
Stephens	1,415
Nevada	1,450
Bradley	100
Total	112,990
Total both states	160,485
Total last week	160,880
Decrease	395

Except during the flood period when the output fell off sharply, production of this division has been hovering around these figures and from the amount of this crude available refiners here have been having difficulty in meeting their requirements. At present crude in this district is on a premium basis, especially from the Smackover Field, where from 5 to 15 cents a barrel is being paid. So far refiners here have shown no inclination to obtain Seminole or any other stock not produced here.

Natural Gas Operations

While the low market on crude is discouraging oil development in this district, interest is turning to some extent to natural gas resources. This is especially noticeable in the Waskom Field of western Caddo Parish, Louisiana, and Harrison and Panola Counties of East Texas, where an extensive drilling campaign is under way.

Considerable competition is evident among bidders for gas from this field since the Magnolia Gas Co. started work on its new gas line to Dallas, Tex., which is expected to be completed within 30 or 45 days. This, with the fact that several other projects are contemplated to provide further outlet for gas from this field as well as other fields in North Louisiana and Arkansas, has stimulated drilling for gas.

In one deal in the Waskom Field, one company alone, the State Line Oil & Gas Co., is required to drill sufficient wells at once to build up a reserve of 75,000,000 feet of gas production daily. This company, through B. A. Hardy, the past week completed the first of its wells started in this latest drilling campaign. It already has four other operations under way.

The entire district between the city of Shreveport and the Waskom Field on the state line is potential gas territory, and, with the Waskom Field itself being drilled up rapidly it is likely that with the growing requirements for gas the activity will extend to take in this further extensive territory in the direction of the city.

With oil at low ebb, many operators have been watching possibilities of gas outlet from this division with a view of obtaining a new profitable field for development. As previously mentioned, several important gas line projects are in the making and if carried out will renew drilling activity in this area.

Deeper drilling for oil in two districts received a setback the past week with the abandonment of three tests drilling below 4,000 feet. One of these in particular, Garrett Modisette Drilling Co.'s No. 1 Union Saw Mill Co., Section 7-18-13, in the wildcat Lawson-Urbana district of Union County, Arkansas, has been watched closely considering the varied developments in that field. It is being abandoned as dry at 4,309 feet, the deepest depth any test in that area ever has reached.

Another deep test being abandoned is Lewis Clark Petroleum Co.'s No. 1 Wyatt, Section 23-5-12, Sabine Parish, Louisiana, which is dry at 4,520 feet. It has been drilling since last August. Standard Oil Co. also abandoned No. 1 Tremont, Section 1-12-2w, Winn Parish, at a depth of 4,024 feet.

There were 24 completions in the Arkansas-North Louisiana district the past week but only 7 of these were oil

FIVE OF SEVEN COMPLETIONS FAIL IN MEXICO'S NORTHERN FIELDS

By George Blardone
Staff Correspondent, Michigan Fields

TAMPICO, Mex., June 3.—With only seven completions in Mexican fields the past week there has been nothing of worth to feature. Five of the completions were failures. Two drilled into the pay at the rate of 200 bbls. each. So sums the record. All of the completions were in the northern fields.

Cosmos Oil Co.'s No. 3, Lot 1 Cacalilao, was finished at 1,740 feet, rated for 200 bbls. The same company's No. 6 was also rated for 200 bbls. at 1,820 feet. The failures follow: International Petroleum Co.'s No. 313, Lot 8, is a dry hole at 2,250 feet. In the Ebano sector, Mexican Petroleum Co.'s No. 150 La Dicha is a fluid well at 1,802 feet, but it may strip; its No. 129, same, is dry at 2,400 feet; its No. 129 East Dicha is dry at 2,050 feet, and so is No. 23 La Pez at 2,090 feet.

Interest during the week, however, did not center on the wells being drilled to completion. Rather, it centered on well No. 2 of the Matthew Shepard lease at Salinas, drilled to completion by Mexican Petroleum Co. April 18, rated at the time for 30,000 bbls (potential head), finishing at 2,270 feet. This well had been permitted to make some oil when it suddenly quit flowing. Tools were run back in the hole to feel for a bridge, if any. Apparently there was no bridge, but a lack of pressure, as the well swabbed over 1,000 bbls. This is the status now. It will be recalled that the No. 1 well on this lease, was finished April 14, at 2,133 feet, rated 10,000 bbls. This well is doing nicely. It is making over 4,000 bbls. of clean oil shoving its production to field storage some little distance away. The National Lines' two wells, known respectively as No. 54 and No. 59 Conteca (railway right of way locations) are both standing up to expectations. The No. 54 was the well that started the excitement in this Salinas sector. Finished April 11 at 2,512 feet, it showed, it will be recalled, a head of 20,000 bbls. In actual exploitation the well can do 10,000 bbls., apparently, under conservative field practice. It has produced considerable oil and continues to do so. No. 59 was completed May 20, but was quite shallow, the other producers considered, being only 2,011 feet. It appears to be a producer like No. 54. This is the bright side of the picture. The other side is that Mexican Gulf Oil Co.'s Nos. 27 and 31 Salinas were both finished the middle of the present month, dry holes, drilling to 2,700 feet. Kern Mex Oil Fields, Ltd., has been long delayed by a fishing job on its No. 3 Clarin, another juxtaposed location to the producing area, but it is now making hole again at 1,575 feet, in brown limestone; its No. 4 Salinas is in gray lime at 1,410 feet; its No. 7 is drilling cement plug at 1,452 feet, gray lime; its No. 18 is in gray lime at 1,220 feet, and three more tests are either at nominal depths or are ready to spud.

Meanwhile this Salinas is the cynosure of all eyes at this time; and, permits forthcoming, everything around there will be rapidly drilled.

April Completions

April was a busy month in Mexican fields. There were 76 wells drilled to completions of which 29 were producers; and, as usual, a few were large wells and many were small ones. The north fields finished 25 producers; the south fields, 4. The new production (potential head) figured 81,890 bbls., of which 60,940 bbls. was heavy oil (north fields), and 20,950 bbls. was light oil (south fields). The production for the month can be placed as follows: Heavy oil, 3,649,922; light oil, 1,632,851, a total of 5,282,773 bbls. In March the production totaled 5,420,642 bbls., a decrease for April of 137,869 bbls.

Field Operations

In the Cacalilao-Panuco sectors of the northern fields drilling operations as the week ended were as follows: La Corona Petroleum Co.'s No. 197, Lot 1 Cacalilao

(Continued on Page 117)

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producers. The latter were exclusive of the Pleasant Hill wells and the Hoosier Oil Co. producer in the Dolet Hills Pool. Three gas wells were completed and the remainder were dry holes.

Detailed operations in proven fields during the week were:

NORTH LOUISIANA

Bossier Parish

Humble Oil & Refining Co.'s No. 30 Bliss & Wetherbee, Section 15-19-11, Bellevue Field, is drilling sandy lime and shale at 2,240 feet. The Texas Company has completed No. 14 Caplis, Section 24-16-12, Elm Grove, pumping 40 bbls., depth 1,551 feet.

Caddo Parish

Arkansas Natural Gas Co. is setting a liner to test a sand at 1,912 feet in No. 8 Gayle, Section 30-16-12. The same company has completed a derrick for No. 2 Lane, Section 13-21-15. The latter, in the Pine Island district, is to be a deep test. Askew and associates will make a test in No. 1 Elliott, Section 12-19-16, which cored a sand at a total depth of 2,112 feet. J. R. Bahan has a derrick up in Section 9-17-16, for No. 1 Abney. Bayou State Oil Corp. has started operations at No. 29 Hoss, Section 34-22-15, having set 6-inch casing at 1,040 feet. Dixie Oil Co. is drilling at 1,150 feet in No. 5-B Files & Mabry, Section 14-21-16. The same company is drilling at 2,438 feet in No. 8 Fitzsimmons, Section 14-21-15. This company is underreaming the 6-inch casing at 3,836 feet in No. 2-A Noel, Section 13-21-15. In this same section is No. 88 Robertshaw, which is drilling at 1,341 feet. No. 10 Slattery Section 27, is being rigged up with cable tools, with total depth at 3,877 feet. Dobson and associates' No. 5 Rives, Section 5-20-16, is drilling at 1,820 feet.

Empire Gas & Fuel Co. is drilling at 1,160 feet in No. 1-B Levee Board, Section 31-21-16. Gulf Refining Co. is at 2,160 feet in No. 269 Ferry Lake, Section 29-20-16, after having drilled out the 6⅝-inch plug cemented at 2,150 feet. No. 13 Tyson, Section 14-21-15, still is in lime at 3,434 feet. No. 5 Wemple, Section 14-20-15, has an oil sand at 2,206-14 feet and is waiting on a standard rig.

B. A. Hardy, who has been active in the Waskom district for several weeks, has a derrick up for another test, the No. 1 Hammock, Section 27-18-15. He has started operations at No. 1 Trosper, Section 35-18-16, and has set 12-inch casing at 107 feet. His No. 1 Wheeler, Section 18-18-16, is down 50 feet. As a result of his drilling activity of the past few weeks, he has a 12,000,000-foot gas well which has been completed at a total depth of 895 feet.

Haynes Brothers have cemented 6⅝-inch casing at 3,592 feet in No. 1 Murray, Section 14-21-15. In Section 15, Double I Oil Co. has a 5-bbl. pumper in No. 10 Spell, completed at a depth of 1,714 feet. Gilliam Syndicate has abandoned as dry at 2,732 feet No. 1 Sellington, Section 17-21-14. Bahan & Bahan have abandoned No. 2 Wilburn, Section 4-17-16. It tested salt water at 2,743 feet. Lewis Oil Corp. is drilling at 1,040 feet in No. 18 Raines, Section 22-21-15. Luby Petroleum Co. is waiting on a standard rig for No. 15 Levee Board, Section 23-22-15. It is at a total depth of 1,047 feet. The same company has a derrick up for No. 16 Levee Board in this section.

Magnolia Operations

Magnolia Petroleum Co. has cemented 6⅝-inch casing at 1,390 feet in No. 4 Caldwell, Section 24-21-15. No. 16 Dillon, this section, bailed salt water with a show of oil at a depth of 1,200 feet. Total depth of this test was 1,750 feet, but it was cemented 1,200 feet off bottom. This company's No. 1 Bell, Section 4-17-16, Waskom Field, tested salt water with a show of gas at 948 feet. No. 23 Robertshaw, Section 23-21-15, is coring shale at 3,636 feet. Marshall Natural Gas Co. has cemented 8-inch casing at 1,837 feet in No. 1 Sharp, Section 22-18-16. Ohio Oil Co. is drilling at 1,020 feet in No. 1 Aaron, Section 32-23-16. This company's No. 25 Smith, Section 12-21-15, is drilling at 2,700 feet. Owl Oil Co.'s No. 4 Florsheim, Section 9-17-16, is drilling at 900 feet after having drilled out the 10-inch plug cemented at 120 feet.

Standard Oil Co. got two wells during the week with the completion of No. 12 Hart, Section 34-21-16, pumping 55 bbls. from a depth of 1,827 feet, and the No. 184 Stiles, Section 33, pumping 60 bbls. from the same depth. This company has started operations at No. 13 Hart, Section 34, and has cemented 6-inch casing at 1,808 feet. It also has a derrick up for No. 14 Hart. Tholl Oil Co. in Section 31-21-15, has abandoned as dry No. 3 Muslow. This test had reached a depth of 1,670 feet.

The Texas Company is cleaning out No. 47 Caddo M. L. Co., Section 23-21-15, completeing a fishing job at 3,657 feet. In Section 14-20-15, this company's No. 7 Curtis is waiting on a standard rig having a sand at 2,202-13 feet. A drill stem was dropped in No. 13-B Noel, Section 14-21-15, and a fishing job is under way there at a depth of 2,968 feet.

LaSalle Parish

A. E. Hudson has a 75-bbl. pumper in No. 5 Urania, Section 7-10-2e, Urania Field, which has been completed in sand at 1,516-24 feet. Louisiana Oil & Refining Corp. in Section 30 has a sand at 1,565-74 feet in No. 1-B Tremont and has set the liner to bail.

Monroe District

Consolidated Carbon Co. is drilling No. 1 White, Section 16-20-4e, Morehouse Parish, a depth of 2,035 feet. United Carbon Co. has cemented 6-inch casing at 2,222 feet in No. 1 Townsend, Section 29-21-5e, same parish. In Ouachita Parish, Ladell Properties, Inc., has completed No. 39 fee, Section 1-19-4e, making an estimated 15,500,000 feet of gas from a depth of 2,186 feet. The same operator's No. 40 fee, Section 29-20-5e, has reached a depth of 1,225 feet. The 12-inch casing was cemented at 190 feet and the 8-inch at 850 feet. No. 41 fee, Section 31, is being rigged up. Consumers Gas Co. has cemented 6-inch casing at 2,188 feet in No. 1 Williams, Section 10-18-5e. Jordan Drilling Co. has a new test in No. 2 Montgomery, Section 13-18-4e. The 6-inch casing has been set at 2,196 feet. The 12-inch casing was cemented at 201 feet and the 8-inch at 895 feet. Palmer Corp.'s No. 4 Millsaps, Section 25-19-2e, is drilling shale and boulders at 1,763 feet.

In Union Parish, C. E. Camette has resumed drilling at No. 1 Tugwell, Section 21-22-1e, and is down 1,540 feet.

Webster Parish

M. E. Davis and associates have abandoned as dry at 3,312 feet No. 1 Lee, Section 22-22-9. W. T. Hunt has just started drilling in No. 1 Bistenan, Section 35-18-10. Louisiana Oil Refining Corp.'s No. 7 Gray is down 2,385 feet. Magnolia Petroleum Co. is at 2,655 feet in No. 3 Cox, Section 23-21-10. This company also has set 10¾-inch casing at 321 feet in No. 2 Marshall, Section 21. Northwest Louisiana Gas Co. is milling rotary slips in No. 1 Coyle, Section 22. This is a deep test at 4,182 feet. Ohio Oil Co. is drilling in lime at 2,990 feet in No. 4 Bank in this section. In Section 23, Woodley Petroleum Co. has a rig up for No. 1-B Cox.

ARKANSAS

Union County

G. J. Childs has cemented 6-inch casing in his No. 2-B fee, Section 8-16-16, Louann sector of Smackover. Total depth of the hole is 2,260 feet. In Section 21, Magnolia Petroleum Co. is drilling black shale at 2,643 feet in No. 1 Union Lumber Co.

In the Norphlet area of Smackover, E. M. Jones has started operations at No. 2-A Lawson, Section 10-16-15, setting 12½-inch casing at 205 feet. Magnolia Petroleum Co. is reaming to the bottom at 2,723 feet in No. 9 Murphy, Section 8. The same company's No. 6 Wilson, Section 17, tested salt water at 2,781 feet but is drilling ahead at 2,790 feet. National Gas & Fuel Corp.'s No. 3-E Murphy, Section 9, is drilling at 2,060 feet. No. 5-F, same section, is to be plugged back. It tested a show of oil at 2,803 feet and cored shale and lime at 2,814 feet. Ohio Oil Co.'s No. 5 Murphy, same section, is drilling at 2,883 feet. Sam Richardson has abandoned No. 2-M Murphy, Section 14-16-15, total depth being 2,014 feet. The same operator is bailing the liner in No. 5 Lawton, Section 5. It is at 2,739 feet. This test was dry at 2,721 feet. Southern Crude Oil Purchasing Co. is drilling at 2,640 feet in No. 5-A Wells, Section 15.

Mountz and associates' No. 6 Pratt,

(Continued on Page 92)

NORTH LOUISIANA-ARKANSAS WILDCATS FAIL TO PRODUCE

By Neil Williams

SHREVEPORT, La., June 6. — Considering new production in Sabine, DeSoto and Red River Parishes, Louisiana, and another producer in the Lawson-Urbana district of Union County, Arkansas, wildcat and semiwildcat operations were more favorable the past week.

However, wildcatting outside of these districts again failed to produce anything but dry holes and in the Lawson-Urbana Field the abandoning of Garrett Modisette Drilling Co.'s No. 1 Union Saw Mill Co., Section 7-18-13, was a serious setback.

The latter test was the deepest ever drilled in that area, being abandoned at a total depth of 4,309 feet after having made several dry or salt water tests at various levels. In addition to this, eight other wildcat tests were abandoned during the week, among which were one in the Carterville area of northern Bossier Parish, Louisiana, one in Bienville Parish, one in LaSalle Parish, one in Natchitoches Parish, one in Sabine Parish, and three in Winn Parish.

In Winn Parish, H. M. Roark hit rock salt at 437 feet in No. 1 Southern Minerals Co., Section 19-11-3w, and failing to go out of it at 800 feet, abandoned the test. This test was near the Marble Quarry salt dome.

Tunica Petroleum Co.'s No. 1 Hardtner, Section 9-7-2e, LaSalle Parish, failed to pick up the 800-foot sand found productive in other tests there and was abandoned. The same company's No. 28 L. & A., in the same section, has a hole full of fluid, 20 per cent salt water, from a sand at 764-69 feet and is being placed on the pump.

Carterville Area

In the Carterville area of northern Bossier Parish, W. R. Ramsey is making a very thorough effort to find oil if there is any important production there. He is attempting to pick up the true Woodbine sand in his No. 1 Robertson, Section 22-23-12. This is the deepest test to date in the field, at present being down 3,320 feet in a gumbo, but is shut down for a short time for rig repairs. Ramsey's No. 1 Dodson, Section 16, has been shut down pending the completion of No. 1 Robertson. It is at a depth of 3,070 feet near the gas sand level. No. 1 Robertson is being drilled very slowly and carefully and its outcome probably will be a determining factor in what will be done with the No. 1 Dodson.

Wildcat operations the past week were:

NORTH LOUISIANA

Bienville Parish

S. P. Borden has abandoned No. 1 L. & A., Section 9-15-7. This test struck a salt water sand at 3,645 feet. W. E. Hicks and associates have a rig up for No. 1 Hodge Hunt, Section 21-16-5. Kimbrough and associates have resumed drilling in No. 1 Cargle, Section 27-15-8. This test is down 1,560 feet. Tunica Petroleum Co. has a derrick for No. 30 L. & A., Section 34-16-7.

Bossier Parish

John Glassell, jr., and associates' No. 1 Gibson-Tiger, Section 14-21-14, is drilling in gumbo at 2,260 feet. Magnolia Petroleum Co. has cemented 6¼-inch casing at 3,084 feet in No. 1 Dodson, Section 15-23-12, Carterville area. Palmer Corp. has cemented 6-inch casing at 4,130 feet in No. 4 Bossier, Section 9-16-11. W. R. Ramsey has shut down No. 1 Dodson, Section 16-23-12, pending completion of his No. 1 Robinson, Section 22, which is attempting to pick up the true Woodbine sand in the Carterville area. The latter test is coring in a sandy shale with a slight odor of oil at a depth of 3,246 feet. No. 1 Dodson is down 3,070 feet. In the Carterville area, Tate Oil Co. has abandoned the hole at 240 feet in No. 1 Dodson, Section 15.

Sligo Syndicate is drilling at 3,025 feet in No. 1 Jeter, Section 23-17-12. Tubbs and associates are in lime at 3,295 feet in No. 1 Jacobs, Section 26-20-13. Walker and associates are moving in a rig for No. 1 Cutrim, Section 28-22-13. Estes and associates are arranging to deepen No. 1 Bodeau, Section 15-23-12, Carterville. This well was completed two years ago pumping 15 bbls., mostly salt water, at a depth of 2,721 feet.

Caldwell Parish

Grayson Oil Co. is drilling at 800 feet

(Continued on Page 117)

NEW WORK STARTED IN WILDCAT AREAS IN EAST CENTRAL TEXAS

By Special Correspondent

CORSICANA, Tex., June 4.—Drilling has been resumed on the Pandem Oil Co.'s deep test on the Bassett farm, 2 miles west of Kosse, Limestone County, after a short delay while the crew was waiting for drill stem. This well showed a little oil at 4,534 feet, which created quite a stir until the sand was tested without commercial oil results. The Kosse Syndicate's No. 2 Jones, in the same district, has a fishing job at 3,414 feet, where an oil showing is reported.

Schnauffer and others have spudded in a hole on the G. S. Black farm, C. O. Edwards Survey, about 1½ miles from Piedmont, Grimes County.

The Humble Oil & Refining Co. purchased leases near Palestine, Anderson County, which call for a test to be started by June 28. J. S. Cosden and others have started drilling on the Douglas land, 8 miles northwest of Palestine.

Cranfill & Reynold's No. 1 Mrs. B. E. Purefay, William Newell Survey, in Henderson County, was abandoned as dry at 3,043 feet.

In Anderson County the Humble Oil & Refining Co. was drilling in shale at 4,585 feet in No. 2-A Southern Pine Lumber Co. land.

In Cherokee County the Humble Oil & Refining Co.'s No. 1 Reynolds Mortgage Co., Isaac Durst Survey, was drilling in chalk at 2,768 feet, top of the chalk at 2,655 feet. Same company's No. 2 Earl & Ragsdale was drilling at 3,587 feet in shale; chalk from 2,792 to 3,122 feet.

In Franklin County Trout and others' No. 1 Gandy, Truitt Survey was shut down at 3,500 feet.

In Hunt County the Amerada Petroleum Corp.'s No. 1 Walter Grainer, James Hamilton Survey, was drilling in shale after penetrating chalk at 2,140-2,802 feet.

In Navarro County the Magnolia Petroleum Co. was drilling in lime at 4,300 feet in No. 1 Marshall, Chambers Survey.

In Freestone County the Orbitt Oil Co. drilled plug No. 1 Coleman, in which casing had been set at 3,309 feet and bailed the well down 1,800 feet with no showing of oil or gas. The well is 4 feet in sand at a total depth of 3,344 feet.

The E. L. Smith Oil Co. and others' test on the Stebenrauch farm, which blew in as a big gasser at a depth of 5,752 feet, has been placed under control and the gas plugged off. An attempt will be made to set pipe and drill deeper.

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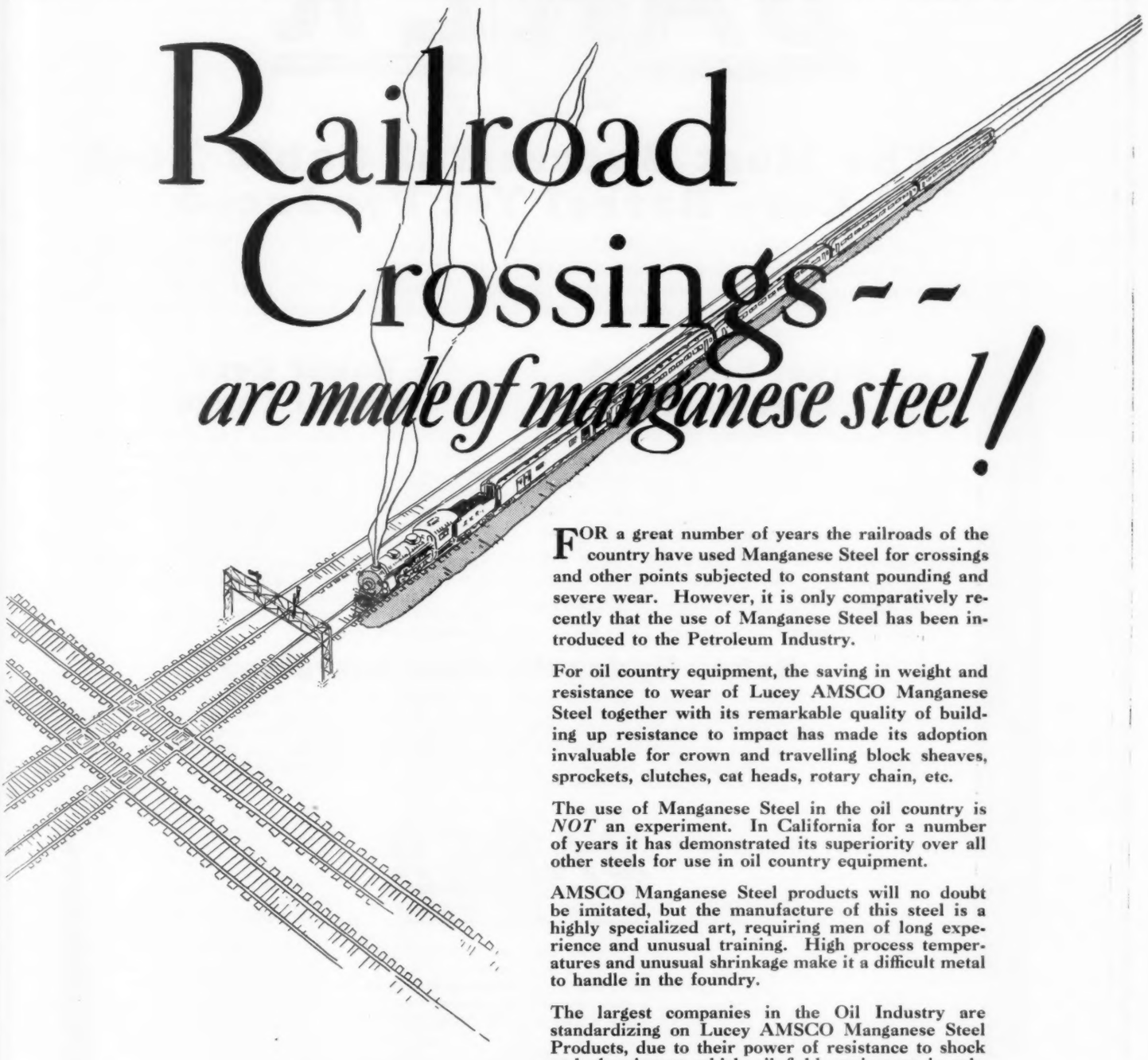

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New Benavides Test May Open Pool

No. 43 Plugged and Abandoned Considered an Edge Well. No. 47 Is Being Started 900 Feet to the East

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., June 6.—Cole Petroleum Co.'s No. 43 Benavides, plugged and abandoned at 2,351 feet, but with the derrick left over the hole, is yet the most interesting test in Southwest Texas, and the drilling of the company's next test 900 feet to the east will be watched with interest. It may open an oil pool. No. 36 Benavides in Block 14, of Survey 412 Webb County, 4 miles west of the Cole gas field and about 7 miles southeast of the Carolina-Texas Field was a big gas well of dry gas at 2,328-36 feet. No. 44 Benavides, a few hundred feet south is a dry gas well at the same depth. No. 43 Benavides 1,500 feet east of No. 36 had 4 feet of sand at 2,348-51 feet and salt water. It had 1,500 feet of fluid in the hole, 200 of it oil and the rest water. The oil was not cut but separated readily from the water and was 23.84 gravity. The dip is to the east and southeast. It may be an edge well. Anyway that theory will be tested out by the drilling of No. 47 Benavides which is being started 900 feet east of No. 43.

Killam-Maddox's No. 1 Bruni, a half mile south of the station of Bruni on the Texas Mexican railroad and 4 miles southeast of the Cole wells, at 2,315 feet was reported recently a big gas well. It must be in a different sand from the Cole wells since it gets the sand higher whereas the dip is in its direction and it should find the sand lower. Cole Petroleum Co. discovered the Cole gas field which has also made some oil and its two gassers indicate and prove at least another gas pool, and wildcatting to the east of the two gas wells will prove whether or not the Mirando district is to have another new oil pool.

Outside of the Cole well the week has been quite featureless so far as proven areas are concerned. In the Adams gas field the Witherspoon No. 2 Nixon, over a mile southwest from the nearest gas production in the Adams gas field, is still running wild and has been for over two weeks. It was closed in for a time after 100 feet of 10-inch was got into the hole and cemented but when the well was closed the hole blew out 300 feet from the well and the valves were opened again. Some 8¼-inch was got in and the water shut off and the well has again blown out at the side. It is proving difficult to handle.

Refugio Gas Field

In the Refugio gas field in Refugio County, an accidental blowout in the Houston Gulf Gas Co.'s No. 6 Lambert at 1,165 feet resulted in the discovery of a new sand. That field now has several sands producing whereas it started off with but one at about 2,400 feet. The new well had surface casing set and for a time ran wild. The gas is dry gas and free from sand and has been turned into the pipe line of the Houston Gulf Gas Co. Eventually it will be completed by setting casing, especially if it starts to showing any water.

In the Somerset field in Baxter County, George C. Ginter, on land he bought in fee at the east end of the field, brought in a producer at 1,370 feet which has extended the field about a mile or more to the east. Associated Petroleum Co. has started to drill north of him on the Koehler tract and is completing one well which was an extension of the field till Ginter extended it farther. N. A. Saigh and Associated on Koehler and Frees leases had given the field an extension of a few locations to the east, getting the pay at a little below 1,300 feet. The extension strip may prove to be narrow. There has been no drilling to test the width. Production is around about 5 to 10 bbls.

COMPLETIONS

Webb County

Killam-Maddox No. 1 Bruni, Survey 4, Block 5, at 2,317 feet, steel line measure, is estimated at 30,000,000 feet of dry gas.

Cole Petroleum Co.'s No. 43 Benavides, Block 13, Survey 412, tested dry and was abandoned at 2,348 feet.

Laredo Oil Co.'s No. 12 J. M. Garcia, Survey 458, Schott Pool, was dry and abandoned at 2,502 feet. Regular production in that field is at about 1,650 feet.

Jim Hogg County

Magnolia Petroleum Co.'s No. 27 Martinez, Survey 276, was dry and has been abandoned at 2,340 feet.

Hidalgo County

Hidalgo Oil & Gas Co.'s No. 1 Poorbaugh, Santo Anito Survey, has been abandoned dry at about 1,200 feet.

Brooks County

The Texas Company's No. 1 Lasater, Survey 329, abandoned at 430 feet in gyp.

Refugio County

Houston Gulf Gas Co.'s No. 2 Wilson Heard-Receiver, at 1,610 feet, gauged 25,000,000 feet of gas.

McMullen County

R. L. Taylor's No. 1 Shiner, Survey 8 of the Shiner ranch, at 2,520 feet was dry and was abandoned.

Milam County

Rockdale Oil Co.'s No. 2 Lorenz, completed at 1,370 feet, is a 20-bbl. oil well.

Kent-Middleton's No. 1 Ed Gunn, in southern limits of Rockdale, is a 12-bbl. well.

Kent-Middleton's No. 5 John Hicks is a 15-bbl. well.

Medina County

Schermerhorn Oil Co.'s No. 5 Medina Valley Irrigation Co., Block 3, Survey 31, abandoned in the Edwards lime, topped at 2,030 feet, and dry.

Marland Oil Co.'s No. 3 San Antonio Trust, Survey 21, at 1,484 feet, in the top of the chalk, was dry and abandoned.

Karnes County

Alamo Drilling & Leasing Co.'s No. 1 Szalwinski, Manacha Survey, dry at 2,511 feet and abandoned.

Bastrop County

The Texas Company's No. 1 Goertz, Survey 349, dry and abandoned at 3,100 feet.

Gonzales County

Gonza Petroleum Co.'s (E. Lee Moore) No. 1 Elder, dry and abandoned at 2,240 feet.

Goliad County

Houston Oil Co.'s No. 2 Parks, 8 miles southeast of Goliad, abandoned at 3,747 feet, dry.

Houston Oil Co.'s No. 3 Pettus, 10 miles west of Goliad, dry and abandoned at 3,856 feet.

NEW LOCATIONS

Caldwell County

Magnolia Petroleum Co.'s No. 10 Tiller, J. Henry Survey, in the Luling Field, 400 feet southwest from No. 1.

E. F. Smith's No. 5 San Marcos River bed, 300 feet north of No. 4, in the Luling Field.

Refugio County

Houston Gulf Gas Co.'s No. 7 Lambert in Refugio gas field has spudded in.

Houston Gulf Gas Co.'s No. 2 Lambert has spudded in and drilling at about 700 feet.

Gonzales County

Gonza Petroleum Co.'s (E. Lee Moore) No. 2 Elder, F. R. Whitney Survey, Block 11, southwest of No. 1 Elder.

Zavala County

B. F. Thompson's No. 1 West, in north central part of county, contract let for 112-foot derrick and for rotary test.

Milam County

Noack & Laning's No. 1 Nealy, southern extension of Rockdale Pool, rigged up and ready to spud in.

Kent & Middleton's No. 1 Arnold, southern extension of Rockdale Field, drilling.

Noack & Laning's No. 2 Rowland, southern extension of Rockdale Field and south offset to No. 1, rigged up.

Lowenstein Oil Co.'s No. 3 fee, in southern extension of Rockdale Field, spudded in.

W. A. Jones' No. 1 Smith, T. J. Chambers Survey, 150 feet to the northeast line and 810 feet to the southeast line, a wildcat test.

Cole Gas Field—Duval

Cole Petroleum Co.'s No. 38 Benavides, Survey 10, Block 12, located 155 feet to northeast and northwest lines, has derrick up; No. 45 Benavides, Survey 22, Block 5, located 450 feet to southwest and southeast lines, is rigging up. Houston Oil-Sun Oil Co.'s No. 4-A Benavides is location on corners of Blocks 405, 406, 411 and 412. Houston Oil-Roxana's No. 1 Bruni, Block 18, Survey 11, is location 150 feet to northwest and northeast lines.

O'Hern & Seacord Pool

Magnolia Petroleum Co.'s No. 2 Benavides, Survey 174, Block 7, located 330 feet to northeast and northwest lines, is drilling at 2,360 feet.

Henne Winch & Faris—Jim Hogg

Magnolia Petroleum Co.'s No. 27 Martinez, Survey 276, located 1,750 feet to east line and 2,525 feet to north line, is drilling at 2,312 feet.

Kitselman & St. Albans Field

Edward St. Albans' No. 8 Lopez, Share 1, Block 7, located 1,058 feet to south line and 974 feet to west line, has been spudded in. K. & S. Corp.'s No. 57 Holbien, Survey 17, Block 40, located 330 feet to NE cor., is fishing for collar and bit at 2,498 feet.

Alworth Pool

Magnolia Petroleum Co.'s No. 22 Merchants State Bank, Survey 236, located 450 feet to west line and 150 feet to south line, is drilling at 2,500 feet.

Schott Field—Webb

Laredo Oil Co.'s No. 12 J. M. Garcia, NW SW, Survey 458, located 760 feet to west line and 160 feet to north line, is standing at 2,502 feet.

Albercas Gas Field

O. W. Killam's No. 2 Bruni, Block 65, located 1,470 feet to south line and 470 feet to east line, is standing at 2,200 feet; O. W. Killam's No. 3 Bruni, Block 64, located 150 feet to north line and 450 feet to west line, is drilling at 3,100 feet.

Carolina-Texas Field

D. J. Simmons' No. 2 de la Garza, Survey 335, Block 8, located 150 feet to SW cor., is standing at 400 feet. Ward and others' No. 1 Webster, NW NE NW, Survey 684, located 150 feet to NW cor., is drilling in hard rock at 2,300 feet. Houston Oil Co.'s No. 1 Barnsley, Sur-

(Continued on Page 90)

THREE EDWARDS LIME TESTS FAIL; MAVERICK COUNTY WORK DELAYED

By B. D. Stevenson

SAN ANTONIO, Tex., June 6.—Wildcat areas the past week have disclosed no new interests in southwest Texas. The Alamo Drilling Co. that had 80 feet of sand in No. 1 Szalwinski, in Karnes County at Falls City, at 1,803-87 feet drilled to 2,511 feet completing the contract depth at 2,500 feet and has abandoned the hole. The sand showed some oil under either but not enough to make a well. There is some possibility that a rechecking of the geology in that area may disclose information warranting another test on a new location in that area. Some of the major companies interested are now considering it.

Three Edwards lime tests proved failures, one in Bastrop by The Texas Company on the Goertz farm at Red Rock which topped the Edwards at 3,046 feet and was abandoned at 3,100. It tested sulphur water and is in the zone that has frequently been drilled from Edwards production since the Luling Field came in. Another was the Fennell & Williams test in Medina which topped the Edwards at 1,789 and was abandoned at 1,875 feet. The third was the Schermerhorn Oil Co.'s test in Medina Block 3, Survey 31, which topped the Edwards at 2,030 feet and tested dry and was abandoned at 2,107 feet.

All three of the deep tests in Maverick County are tied up. When the Rycade Corp.'s No. 1 Chittim in that county a few months ago made its first showing of oil and gas it brought the county into the attention of the industry and it has been there pretty much ever since. No. 1 Chittim, now mudded off at 5,590 feet is fishing for tools as it has been for the past few weeks. Rycade's No. 2 Sullivan, trying to set 9-inch at 3,832 feet, had the casing collapse and is trying to get it out and Ryan Consolidated's No. 1 Indio at about 1,200 feet, trying to set 12½-inch, had it collapse.

Duval County

Schlessinger Oil Corp.'s No. 2 Hahl, Survey 60, is location 330 feet to north line and 1,650 feet to east line. National Oil Co.'s No. 1 Ball, Ball Ranch, Survey 16, located 450 feet to north line and 150 feet to east line, has derrick up. George B. Pickett's No. 1 Ball is location in NW cor. of Ball ranch. Ralston M. Talbott's No. 1 Margarite, Survey 4, located 2,500 feet to northwest lines and 1,320 feet to northeast lines, is standing at 1,600 feet. Humble Oil & Refining Co.'s No. 12 Singer, Survey 4, located 2,600 feet to north line and 2,000 feet to west line, is drilling at 3,567 feet; No. 2 Welder-Woods, Survey 102, located 5,280 feet to south line and 4,500 feet to east line, is drilling at 1,470 feet. Humble-Reiter-Foster's No. 6 Kohler, Survey 400, located 60 feet to west line and 660 feet to south line, is drilling at 279 feet. Dixie Oil-Southern Crude's No. 1 Gray, Survey 316, located 330 feet to NE cor., is drilling at 2,250 feet.

Jim Hogg County

Holden and others' No. 3 Jones, Share 27, Block 136, located 330 feet to east line and 440 feet to north line, is standing at 1,580 feet. Harry Hamilton and others' No. 1 Holbien, Block 44, Hamilton subdivision, 158 feet to south line and 363 feet to west line, at 1,640 feet tested dry.

Starr County

Commonwealth Oil Co.'s No. 1 Garcia, Survey 538, located 2,722 feet to south line and 2,102 feet to west line, is drilling at 1,080 feet. Southern Exploration's No. 2 Russell, Share 173-B, Porcion 69, located 150 feet to north line and 950

(Continued on Page 113)

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Hull and Blue Ridge Best in Pools

Two Deep Sand Tests at Spindletop Quit. Failure of Initial to Hold Up Causes 3,300-Bbl. Decline in Gulf

By P. L. McGreal
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., June 6.—Only 5,580 bbls. of new production were developed in the Gulf Coast division during the week of June 4, compared with 18,295 bbls. during the previous week. The Hull and Blue Ridge Pools were the only spots showing anything worth while during the week. The two completions in the deep sand section at Spindletop were failures.

Production from the wells completed last week failed to hold up near the initial and as a consequence the estimated daily average gross output for the week shows a decrease of 3,300 bbls.

Drilling has been cut to the bone and scores of rigs have been withdrawn from the pools and placed in storage. The Gulf Coast region differs from all other divisions in many respects other than the character of the crude produced and its uses. One difference is that in the more recent pools, such as Lockport, Big Creek, and others the acreage is held in large blocks by one or two corporations and enough development work has been done to show that the production can be increased at any time by putting on a drilling campaign. Then, there are several semipools such as Sweet Lake and Hackberry in Cameron Parish, Louisiana; the Orchard Pool in Fort Bend County and the Allen Dome in Brazoria County that can be brought to the front whenever market conditions justify it. It is in times like the present that the holding of large blocks of acreage by one or two companies has its advantages. It prevents glutting the market with flush production, whereas if the acreage was cut up and held by many corporations some one of them would start drilling and thus offset wells would result and a flood of oil be let loose.

The estimated daily average gross production for the week is placed at 154,585 bbls., divided as follows:

Pool—	Dly. Avg.
Boling	2,015
Batson	1,510
Blue Ridge	5,500
Big Creek	3,665
Barber Hill	500
Dayton	30
Damon Mound	885
Edgerly, (La.)	940
Goose Creek	8,600
Humble	4,385
Hull	17,920
High Island	265
Jennings, (La.)	980
Lockport, (La.)	6,300
Markham	450
Nash	1,020
Orange	5,900
Orchard	175
Pierce Junction	9,090
Piedras Pintas	75
Spindletop	58,800
Saratoga	1,115
Sour Lake	4,480
South Liberty-South Dayton	3,350
Stark, (La.)	900
Vinton, (La.)	5,000
West Columbia	9,200
Welsh-Anse La Bute, (La.)	35
*Miscellaneous	1,500
Total	154,585

The South Louisiana Pools and semi-wildcats are credited with 14,805 bbls. of the gross.

*Includes Nacogdoches, Washington and Kleberg Counties, Texas; Cameron, Calcasieu and Iberia Parishes in South Louisiana.

The Completions

In the Hull Pool, the Gulf Production Co.'s No. 1 J. C. Baldwin, finished at 3,075 feet, is flowing 1,000 bbls. The Mecom Oil Co.'s No. 1 Taylor, on the northwest flank, was worked over and deepened to 3,930 feet and responded flowing 2,500 bbls., with 20 feet of strainer set.

In the Blue Ridge Pool, J. S. Abercrombie's No. 9 West-Schenck on the south side of the dome, came in at 3,660 feet flowing 1,200 bbls. The Gulf Production Co. abandoned No. 9-B Blakely in salt water at 3,800 feet.

On the east side of the Pierce Junction Dome, H. R. Cullen's No. 8 Howe, a work over, is pumping 100 bbls. at 4,650 feet. J. F. Bashara's No. 2 Bender on the north side, was abandoned in salt at 4,200 feet.

In the Orange Pool, the Gulf Production Co.'s No. 11 Peveto on the south side, is making 380 bbls. at 4,700 feet.

The Texas Company's No. 4 fee in the Big Creek Pool in Fort Bend County got salt water at 3,900 feet. The Gulf Production Co.'s No. 1 J. H. P. Davis is pumping 50 bbls. at 3,400 feet.

In the Goose Creek Pool, the Gulf Production Co.'s No. 24 Smith was abandoned at 1,400 feet after being worked over. The Gulf Coast Co.'s No. 35 Galliard bailed dry at 2,050 feet.

The Gulf Co. will put No. 1 Marshall on the west side of the Trinity River on the jack. The Navarro Oil Co.'s No. 10 Harrison was vainly worked over and abandoned at 3,450 feet.

In the Batson Pool, the Sterling Oil Co.'s No. 6 Hooks is bailing at 1,475 feet.

In the deep sand section at Spindletop, the Walker Oil Co. quit No. 1 Quinn at 5,400 feet and the Lord-Mothner Oil Co.'s No. 2 Banks at 400 feet.

Southwest Fields

The estimated daily average gross for the southwest fields is placed at 35,065 bbls., a decline of 165 bbls. for the week. The estimate for each field is as follows:

Field—	Dly. Av.
Luling	16,600
Mirando-Laredo	14,050
Somerset	1,200
Calliham	30
Rockdale-Minerva	1,060
Lockhart, (Lytton Springs)	2,125
Total	35,065
Grand total for week	189,650
Grand total last week	193,115
Net decrease	3,465

South Louisiana Pools

In the Edgerly Pool, the Crotty Oil Co.'s No. 12 Lilliard is setting screen to bail at 2,300 feet.

The Jennings Petroleum Co.'s No. 1 Crowley got salt water in the Jennings at 2,310 feet.

In the Lockport Pool, the Vacuum-Gulf Co.'s joint No. 2 Bordages was abandoned at 3,775 feet. Joint No. 1 Farquhar will make a pumper at 4,300 feet. Joint No. 15 Miller is swabbing at 4,350 feet.

Among the wildcats C. A. DeWare abandoned No. 1 Schulenberg in the Brenham district in Washington County at 1,560 feet.

In Shelby County, Clark and Melat's No. 1 Pickering Lumber Co. lands is dry at 3,250 feet.

Wells Drilling and Rigs

Practically all the drilling being done in the deep sand section at Spindletop is on the south side. The Magnolia Petroleum Co.'s No. 3 fee is pulling the screen set at 5,190 feet. No. 5 fee is drilling at 4,810 feet with a location made for No. 6. No. 1 Tank Farm is drilling around 4,010 feet. The Sun Oil Co.'s No. 10 McLean is fishing at 3,925 feet. A derrick is standing for No. 11 McLean. No. 12 is drilling around 5,400 feet and No. 13 is at 3,215 feet with No. 14 about 2,100 feet. No. 1 Price is deepening at 3,790 feet. The Gulf Production Co.'s No. 3-A McLean is at 3,900 feet. No. 5 is below 4,900 feet and No. 8 is drilling around 5,940 feet. No. 11 Oakwood is at 3,435 feet and No. 12 has started. No. 7 Mann is at 3,506 feet.

The Grayburg Oil Co.'s No. 1 McLean is at 5,435 feet. The Rio Bravo Oil Co.'s No. 50 T. & N. O. right of way is at 4,215 feet. The deepest hole is J. O. Davis' No. 1 Gladys on the west side, drilling near 6,000 feet. The Hines Oil Co.'s No. 2 Gordon is at 1,825 feet. The Texas Company's No. 1 Garrick, one-half mile north of production, is drilling around 4,900 feet.

Derricks are standing for the Multiple Oil Co.'s No. 1 Deutser and the Kinnear Oil Co.'s No. 1 Gladys.

In the deep sand section on the northwest flank of the Pierce Junction Pool, 8 miles south of Houston, the Gulf Production Co.'s No. 3 Jones is drilling at 4,190 feet. The Rio Bravo Oil Co.'s No. 6 Settegast is at 4,309 feet and No. 7 is at 4,415 feet with a location for No. 8. No. 3-B is at 3,580 feet with a location for No. 5. The Marland Oil Co.'s No. 1 Prudent is drilling deeper. Lee & Woodward's No. 2 Settegast on the south side of the lease is drilling around 2,740 feet. M. Kouri's No. 2 Jones is bailing around 2,900 feet. Anderson & Plummer's No. 1 Whitehead is drilling around 3,810 feet. Smith and others have a location for No. 2 Parsons.

On the east side of the dome, where the original production was found, the Gulf Production Co.'s No. 20 Taylor is drilling deeper at 3,924 feet. The Texas Exploration Co.'s No. 10 Dooley is swabbing at 3,975 feet.

In the Goose Creek Pool, the Humble Oil & Refining Co.'s No. 71 Smith on the east side, is drilling around 3,300 feet with a location for No. 72. No. 10 Beaumont in the bay is at 4,275 feet. The Gulf Production Co.'s No. 14 Chapman-Bryan, near the mouth of Goose Creek, is drilling around 1,540 feet. No. 7 Houston-Smith will be deepened. Wilson and others' No. 7 Busch is drilling around 2,120 feet.

In the Humble Pool, the Sun Oil Co.'s No. 40 Blaffer and the Burt & Griffith's No. 1 Stevenson are being rigged to start drilling.

Fort Bend County

In the Blue Ridge Pool, the Overly Production Co.'s No. 1 Blakely is around 5,017 feet. The Navarro Oil Co.'s No. 2-A Robinson on the northwest flank is rigging to drill deeper. The Gulf Production Co. has made a location for No. 11 West-Schenck on the south side of the dome.

In the Big Creek Pool, the Gulf Production Co.'s No. 29 T. W. Davis is rigging to drill deeper. The Texas Company's No. 1 Wheat is drilling around 3,670 feet and preparing to deepen No. 2 fee.

Liberty County

In the Hull Pool, the Republic Production Co.-Houston Oil Co.'s joint Nos. 33 and 84 Dolbear on the east side are both drilling deeper. On the southeast side, the Gulf Production Co.'s No. 10 Phoenix will be deepened and No. 86 is drilling at 3,900 feet. On the south side, the Empire Gas & Fuel Co.'s No. 25 Barngrover is at 3,160 feet. On the southwest, The Texas Company-Vacuum Oil Co.'s joint No. 5 Hannah is at 3,235 feet with a location for No. 7. On the northwest side, The Texas Company's No. 3 Taylor is drilling at 3,455 feet. J. H. Antilly's No. 5 Abel will be drilled deeper. The Big Dome Oil Co.'s No. 1 Palmer on the northeast side is drilling about 865 feet.

The Texas Company's No. 2 Staiti on the east side of the Trinity River in the South Liberty Pool is sidetracking at 3,270 feet.

D. J. Harrison's No. 1 Quintette in the old North Dayton district is below 5,200 feet.

Hardin County

The old Sour Lake, Batson and Saratoga Pools in Hardin County are just about deserted. In fact, no rigs are running at Sour Lake. In the Batson Pool, the Sun Oil Co. is rigging No. 76 Paraffin and The Texas Company has a location for No. 1 Sterling. The Deuster Oil Co.'s No. 1 Colorado is idle at 1,475 feet. On the east side of the Saratoga Pool, the East Side Oil Co.'s No. 1 Ogden, a

(Continued on Page 110)

MID-CONTINENT COMPANIES BUY MORE EASTERN NEW MEXICO LEASES

By Special Correspondent

ARTESIA, N. Mex., June 4.—No completions were reported in eastern or southeastern New Mexico in the week in review, nor was any new work started but George Getty Inc., is about to start a well in the SE cor., Section 14-20s-24e, in Eddy County and it is also reported that the same company will start a test a few miles south of Carlsbad, but the location was not learned.

The Marland Oil Co. has been finding water sands from 2,100 to 2,400 feet in its No. 1 in Section 11-20s-30e. Eddy County and was last reported straight-reaming the 8¼-inch casing to 2,480 feet.

The Mid-Continent Petroleum Corp. and Tidal Oil Co. are reported to have been buying fee leases along the Texas and New Mexico border. The leases they are said to have bought include properties in Townships 20-37e, 21-37e, 20s-37e, 21s-37e, and 22s-37e.

The Gypsy Oil Co. has been paying from $3 to $5 per acre for leases and is reported to have bought 120 acres out of the NW 36-22s-37e, E half, Section 2-21s-37e, NE 16-21s-37e, SE 6-20s-37e, N half, Section 36-21s-36e.

The Midwest Refining Co. has bought the N half, Section 11-22s-37e, N half, Section 25-21s-37e, all of Section 5-21s-37e and all of Section 6-21s-37e.

Northwest New Mexico

In Colfax County the Eureka Oil Co. is still shut down at 4,080 feet awaiting pipe in No. 1 Moore, NW cor. SW, Section 10-29n-24e. W. D. Weathers and others' test in C Section 7-29n-24e was last reported drilling at 1,003 feet.

In Curry County the Frio Oil Co. was fishing for tools at 1,229 feet in No. 2 Saunders, NE cor., Section 11-5n-36e. Steinberger and others (Clovis Oil & Gas Co.'s) No. 1 Dennis, C NE, Section 21-3n-36e, was shut down for 10-inch pipe at 1,100 feet. Hassen Petroleum Co.'s No. 1 Laird, SW cor. SE, Section 22-8n-36e, spudded in and shut down.

In Quay County the Midwest Refining Co.'s No. 1 Wilson, SW cor. NW, Section 30-8n-31e was drilling at 3,325 feet. The Gibson Oil Corp.'s No. 1 Smith, SW cor. SE, Section 24-7n-29e, was drilling below 2,870 feet. The Ohio Oil Co. had casing trouble at 1,538 feet in No. 1 Smith, SW cor. SE, Section 24-7n-29e.

In Union County the Sun State Oil Co.'s No. 1 Pasa Monte, Section 14-24n-30e, was drilling at 2,806 feet.

Southeastern Fields

Summarized field operations in the

(Continued on Page 113)

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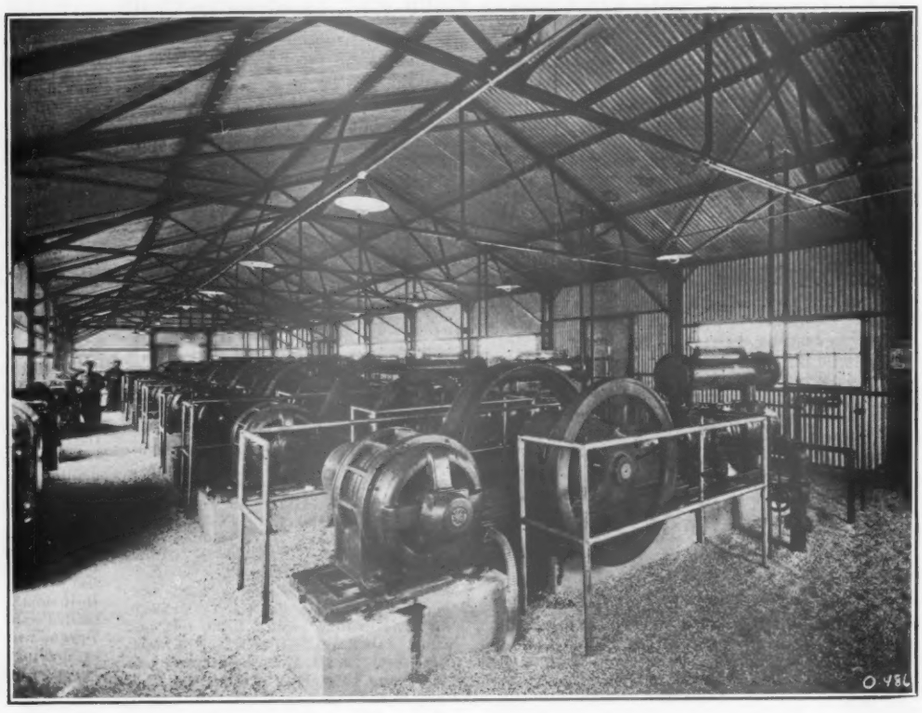

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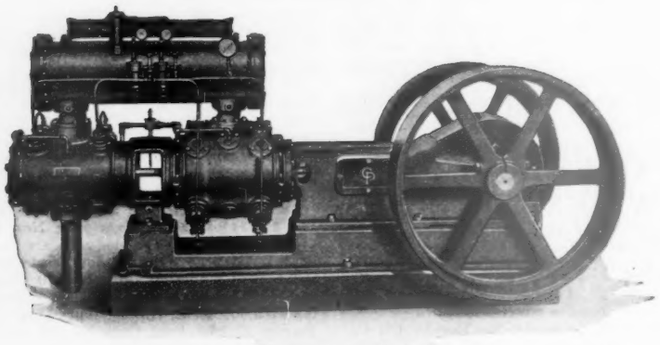

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Lethbridge Reports Oil Strike

Devenish Petroleum's Well, 40 Miles Southeast of City, Said to Have Found Oil at 2,200 feet

By Victor Lauriston
Staff Correspondent, Canadian Fields

LETHBRIDGE, Alberta, June 6.—It is reported that Devenish Petroleum's well, 40 miles southeast of this city, has struck oil at 2,200 feet, the first real Canadian oil well in the Alberta plains area.

CHATHAM, Ontario, June 4.—The Turner Valley Field continues the center of interest in the Canadian West. A year ago the field had eight wells actually drilling and was making some 546 bbls. of 73 degree crude naphtha and 10 bbls. of 55 degree oil. At present the field has 13 wells actually drilling, with a minimum daily production of around 840 bbls. crude naphtha and 79 bbls. crude oil. Four wells have been carried into the Madison limestone of which three, the Royalite No. 4, Illinois-Alberta and Vulcan No. 1 are on a definite producing basis; while the New McDougall-Segur No. 1 has a commercial production of light crude from the Dakota sand. This Dakota sand production has been shown to exist in the Stockmen's Oils test in the north end of the field and the Home No. 1 some 8½ miles further south and represents new possibilities of commercial development. While the actual survey of the field shows 13 tests drilling at present, there are 17 additional tests which have been drilling in the past year and are only temporarily inactive. A number of these will resume work as the season advances.

McLeod Oil Co. No. 2, LSD 16, Section 1-20-3w5, is working in a very hard formation, apparently a sandy limestone, at around 4,337 feet. The gasoline content of the wet gas appears to be increasing. The well is now around 650 feet in the Madison, a depth in that formation not previously reached in the Turner Valley Field. The first producing horizon near the top of the Madison indicated a potential production around 100 to 125 bbls. a day. McLeod No. 3, same LSD, after straightening some 60 feet of crooked hole, is drilling below 1,800 feet.

Making 93 Bbls.

Illinois-Alberta Oil & Refining Co. No. 1, LSD 14, Section 12-20-3w5, is making approximately 93 bbls. a day crude naphtha. Illinois-Alberta No. 2 has been located on the same LSD, about 400 feet west and south of Illinois-Alberta No. 1 and about the same distance north of the New McDougall-Segur No. 1. Derrick timbers are being moved in and the test will rig up with the diamond drill outfit used to finish No. 1. Illinois-Alberta No. 2 will be the first test in the Turner Valley Field to use a diamond outfit throughout. The test may spud in before the end of June.

Dalhousie Oil Co. No. 1, LSD 4, Section 18-20-2w5, is cementing the 4½-inch casing on top of the Madison limestone at 3,680 feet. As soon as the casing sets the well will be drilled to the production level. Dalhousie No. 5, LSD 16, Section 30-19-3w5, is at 4,065 feet and drilling. Dalhousie No. 6, LSD 10, Section 13-20-3w5, is underreaming just below 3,300 feet. This test is making about 2 bbls. a day of light oil from the Dakota sand.

Deepest Drilling

British Dominion Oil & Development Corp., LSD 4, Section 5-20-2w5, is reported drilling at 5,570 feet. At this depth it is the deepest well ever drilled in the Turner Valley Field. The drill is reported working in a coal seam and sandstone indicative of the Kootenay formation, and is thought to be close to the Madison limestone, which in this part of the field seems to be deeply buried. The test has been drilling continuously since it was started in the middle of June, 1926, in charge of M. Hovis as head driller. The string of 10-inch casing, weighing over 100 tons, is one of the longest in the world. At the time the test was started, it was generally expected the Madison lime would be got around 3,500 to 4,000 feet, as in Royalite No. 4; but the drilling showed that the formations dip in this section of the field. Samples of every 10 feet of drilling have been taken and examined by the government petroleum engineer and his staff. For some time it has been difficult to classify the formation in which the drill was working; while there are no surface indications of faulting, samples obtained appear to be a mixture of several formations, from which it was thought possible the drill would pass straight into the limestone. Below 3,100 feet several gas flows have been struck, the latest at 5,200 feet; but no oil.

The British Dominion is one of a group of four wells drilled where, apparently, the formations dip. Of this group the Great Wells Oils No. 1, SE, Section 7-20-2w5, is fishing at 5,370 feet; Big Chief No. 1, LSD 3-4, Section 5-20-2w5, is shut down at 4,370 feet and Cooper-Nanton, LSD 2, Section 7-20-2w5, is shut down at 4,840 feet. The British Dominion, which is in good shape for considerably deeper drilling, is expected to prove the area where the Madison is deeply buried and should get the producing sand at a considerably lower point on the structure than the Royalite and other wells, where wet gas was encountered. The company is planning to continue drilling until the possibilities of oil are definitely proven or disproven. If No. 1 is a failure, No. 2 will likely be drilled in the north end of the field.

The company held its annual meeting at Calgary recently, when the officers were re-elected as follows; president, J. H. Goodwin; vice president, M. C. Costello.. directors, William Matthew, R. M. Cook, A. H. Goodall and A. Webb; secretary-treasurer, Hardie Turnbull. The financial statement shows assets of $390,698.98, including leases valued at $100,000; drilling expense $80,672.89; stock selling expenses, $60,572.61; buildings and equipment, $38,260.23; and current assets of $111,193.25 including $105,000 in Province of Alberta saving certificates. The capitalization outstanding is $390,661, out of the $500,000 authorized capital; and current liabilities amount to only $37.98. Casing in the hole cost $42,425.68, which is included in drilling expenses. The company has sufficient funds in hand to drill a second test.

Near Kootenay Formation

Calmont Oils, LSD 2, Section 1-20-3w5, is at 3,630 feet and drilling near the Kootenay formation, the 10-inch casing being carried down close behind the tools. Spooner Oils No. 1, LSD 12, Section 13-20-3w5, has finished sidetracking the old casing and is drilling at 3,250 feet and apparently close to the Kootenay formation. From the Dakota sand the well is making about 25 bbls. a day of light crude. The test will be carried into the Madison limestone. C. E. Snyder, who helped drill the Royalite No. 4 and Vulcan No. 1 producers is in charge of the work Spooner Oils, Ltd. is reported to be taking over 20 acres of the Ellis Oils, Ltd. holdings on the apex of the east fold of the Turner Valley anticline for a reported price of $63,660 in stock. The acreage comprises N half S half, LSDs 3 and 4, Section 24-20-3w5 and is about three-quarters of a mile north of Vulcan No. 1. It is expected that Spooner No. 2, for which a tentative location was made in another portion of Section 24, will be drilled on this new acreage.

New McDougall-Segur No. 2, LSD 14, Section 12-20-3w5, which spudded in last week is reported drilling below 38 feet. Okalta Oils No. 1, LSD 1, Section 1-20-3w5, has drilled alongside the casing in the bottom of the hole for 265 feet, and is now reported running special 12½-inch casing before drilling deeper. Regent Oil Co., LSD 16, Section 1-20-3w5, is reported drilling through a lost bailer at 2,100 feet.

Stockmen Oils No. 1, LSD 1-2, Section 27-20-3w5, is at 4,060 feet and apparently between 50 and 100 feet in the Madison limestone. The casing, which was taken out to recover an underreamer caught at the bottom of the 8¼-inch string, is being re-run, after which drilling will be resumed. Stockmen's No. 2, LSD 7, Section 27-20-3w5, is practically rigged up, but will not spud in till after No. 1 is finished.

North End of Turney Valley

In the north end of the Turner Valley, Imperial Oil, Ltd. Millarville No. 1, SW, Section 26-20-3w5, is rigging up. In the southern foothills, Imperial-Highwood No. 1, LSD 3, Section 36-18-3w5, is at 2,439 feet and pulling the 10½-inch casing on account of trouble with a shoe. Reports that oil and gas had been struck in this well are officially denied. In the border fields, Imperial Oil, Ltd. is dismantling Erickson Coulee No. 1, LSD 13, Section 8-1-12w4, which had been carried to 3,668 feet and was in the limestone with a string of tools in the hole.

In the Turner Valley Field, Royalite Oil Co. No. 7, LSD 3, Section 13-20-3w5, is at 3,028 feet and drilling.

In the Morley Reserve area, Gold Coin Oils is reported at 2,388 feet and drilling. The test is apparently close to the Dakotas. Wabash Oils, Morley Reserve, is reported to have cemented casing at 179 feet. In the Moose Mountain district, Signal Hill Oil Co. No. 2, LSD 9, Section 34-23-5w5, is shut down at 1,158 feet waiting for a new cable.

In the Gleichen district, C. L. Mann is building a derrick for the Oil Producers Crop. of Canada, which is putting down a test financed partly by local capital.

In the Ribstone-Blackfoot area, east of Edmonton, Marren Lloydminster Oil & Gas Co. of Regina, Saskachewan is getting a standard rig on the ground for No. 1 test in NE, Section 24-28-28w3, on the Saskatchewan side of the provincial boundary. The test is expected to spud in about July 15. The location is on the Charles Marren farm where the discovery of oil seepage in a water well was responsible for the first filing on the Ribstone structure. The Marren-Lloydminster will be the first well to drill on the Saskatchewan end of the structure, though locations have already been made on this end of the Crest Oil Co. in LSD 12-13, Section 12-46-28w3, and the Ribstone Drilling Syndicate, N half NE, Section 22-46-28w3.

In the Viking Field, C. L. Mann is re-

(Continued on Page 111)

FOUR NEW PRODUCERS COMPLETED IN SALT CREEK FIELD DURING WEEK

By F. B. Taylor
Staff Correspondent, Rocky Mountain Area

CASPER, Wyo., June 4.—In the Salt Creek Field in Wyoming, the Midwest Refining Co. completed four new producers the past week. No Lakota wells reached that sand. The Wyoming Associated Oil Co. on Section 26-40-79 found a pay at 2,020 feet that made 108 bbls. on the test. The same company drilled in a producer on Section 24-40-79 at 1,957 feet that made 37 bbls.

The Midwest Oil Co. drilled in a producer on Section 27-40-79 that will make 108 bbls. from 2,055 feet, and the Wyoming Oil Fields Oil Co. brought in a producer good for 92 bbls. at 1,155 feet.

In the Utah operations, the Snowden & McSweeny Co.'s No. 1 Prommel, drilling on the Cane Creek structure below Moab, is at 2,292 feet and should find the pay that was found in the discovery well of the Utah Southern Oil Co. and the Midwest Refining Co. at 2,000 feet to 2,640 feet. The Snowden & McSweeny well will therefore have to go about 348 feet farther and should reach this objective about the middle of next week, with good luck. No. 1 Prommel found some wet gas about 1,600 feet, which was also found in the discovery well.

The discovery well at Cane Creek has been standing idle for some time with the bottom of the hole at 5,000 feet. This well has three important horizons showing oil, the discovery at 2,000 feet, the showing at 3,627 feet, and the showing at 3,970 feet. Each of these showings was capable of making commercial production, but owing to water and cave, they were all abandoned and mudded off.

The Empire Gas & Fuel Co.'s well on the Gibson Dome is interesting, making considerable gas and drilling at 3,552 feet. In San Juan County, the Utah Southern Oil Co. and allied interests' No. 1 Noble is drilling at 2,840 feet in a hard, gray lime.

The Elk Ridge wildcat of the Midwest Refining Co. is reported at 1,475 feet and underreaming to set 10-inch at this depth. The crew expects to resume drilling on new hole the coming week.

Colorado Operations

Colorado field reports are routine and nothing of much importance has come the past week. On the Red Mesa Dome, Section 11-32-12, LaPlata County, the Ohio Oil Co. has a dry hole and is abandoning its wildcat test at 3,842 feet. The rest of the wildcats are drilling or shut down for minor repairs.

The Hiawatha Dome is to have two wells at least and maybe several more. The Ohio Oil Co. is moving in for a test there on Section 22-1-11 in Colorado. This structure lies across the Wyoming and Colorado line and so far no wells have been drilled in Wyoming on this dome.

Oregon Basin has been officially placed among the producing fields of Wyoming and the oil is being quoted at $1 per barrel.

Montana Development

In Montana the field work has been hampered very much by exceedingly heavy rains lately. Roads to the Sunburst Field are impassable and the West-

(Continued on Page 134)

New Oil Field Found in Kern County

Elbe Co. Discovery Near Edison in Area Held by Large Operators. Additional 100 Feet Sand at Alamitos Heights

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., June 4.—The outstanding development in California during the past week was the discovery of another new oil field, near Edison in Kern County, and, while this might be expected to cause considerable alarm because of the present heavy overproduction situation, the industry can rest easy, as all of the potential productive acreage on this structure is held in large blocks. Lease maps indicate that the smallest holding comprises 40 acres, and for this reason there will be no town lotting or intensive drilling undertaken. Another favorable factor which will guarantee normal development is revealed when one notes the names of operators holding acreage near the discovery well. The Marland, Shell, General Petroleum and Elbe Oil Co., which is under the direction of L. S. Barnes, hold practically 95 per cent of what at present appears to be the total productive limits of the field.

The discovery well which opened up this new field, No. 1 Edison, was drilled by the Elbe Oil Co. in Section 20-28-29. This new producer was first given a test at 1,653 feet, and, while it yielded a few barrels on the beam, the result was far from satisfactory. The hole was carried down to 1,845 feet, with no general improvement noted. At 2,074 feet, however, it started off at the rate of 400 bbls. daily, but the first full 24-hour tank gauge showed the initial output to be 341 bbls., the oil testing 18.2 degrees in gravity. The well log shows a loose oil sand between 1,990-97 feet and a hard sandstone from 1,997 feet to 2,037 feet. The next change was a brown shale with streaks of fine oil sand at 2,037-49 feet, with the next 20 feet showing a compact but well saturated oil sand. From 2,069 feet to bottom, 2,074 feet, a fine sandy brown shale predominated. The Elbe's discovery well has a penetration of 675 feet, the hole being finished with a 6¼-inch oil string.

The Elbe Oil Co. has several other projects under way in this field, but for the most part they are merely structure survey holes drilled to get a line on structural conditions. It is not likely that any unusual amount of work will be undertaken in this field during the rest of this year, due to the rather low quality of oil produced and the fact that major refiners do not desire any additional heavy crude oil production at this time. Up to the present writing, the Elbe interests had not consummated a contract for disposition of this crude. The Standard, Union, General Petroleum and Associated have pipe line facilities in the old Kern River Field, a distance of about 8 or 10 miles away, and, while one of these operators will eventually extend its facilities to the Round Mountain Field, nothing definite has yet materialized along this line.

More Sand at Alamitos Heights

Another recent important development in California was the proving up of an additional 100 feet of oil sand in the Alamitos Heights section of the Seal Beach Field. This is far more important at present than the discovery of oil in the Edison district of Kern County, as the additional thickness of oil sand found on top of the structure at Alamitos Heights will undoubtedly arrest the decline which has taken place during the past few weeks and cause field production to swing upward again in the very near future. Geologists are inclined to believe that the 160-foot sand found on top of the structure will be rather limited in area, as several fairly deep wells around the edge of this horizon have failed to find more than a relatively thin sand.

The instrumentality through which the Pan American discovered the additional thickness of sand was No. 1 Marquis, which came in flowing 3,500 bbls. of clean 27.1 gravity oil daily from 4,860 feet. The Pan American has 11 drilling wells nearing completion, and most of them should be brought in within 10 days. It is needless to say that the company will take the maximum penetration available and, unless something unforeseen develops, there is a possibility the former Seal Beach production peak of 58,000 bbls. per day may again be approached, or perhaps exceeded. At any rate, this new sand gives evidence of resulting in additional favorable production. In view of past experiences, however, it may possibly be only a flash in the pan and of a temporary nature.

The fact remains, however, that the 10 or 15 new wells and redrilling projects scheduled for completion during the next 14 days will, without doubt, cause another upward swing, the duration of which depends upon the extent of the new sand found. The Pan American will not be the only operator to take advantage of this new discovery, as several other drilling projects are also making a bid for the same objective. As the situation looks at present, California production will resume its upward climb, due to the completion at Alamitos Heights of a considerable number of new wells during a relatively short period, many of which will reflect the recent discovery of the 160-foot sand on top of the structure.

No further movements are under way at present to curtail additional production in any of the older fields and, in the absence of this, State production is expected to increase another 15,000 or 20,000 bbls. during the next few weeks. Due to the splendid co-ordination of effort by the various departments of the Pan American Western this company will have sufficient storage capacity available to take care of any additional production secured as a result of new completions at Alamitos Heights. The company has twenty-four 100,000 bbls. steel tanks in course of construction at its tank farm near Torrance and with rush orders issued construction work is being pushed ahead as quickly as possible. The company's refinery and pipe line facilities are equally efficient. E. L. Doheny, president of the company, and J. C. Anderson, as vice president in active charge of operations, have established the reputation of undertaking all new work on a comprehensive scale.

Seal Beach

In addition to No. 1 Marquis, the Pan American brought in No. 2 Parr Person at Seal Beach but this well did not have sufficient gas pressure to come in under a natural flow. As a consequence it was put on the beam at 4,799 feet and completed as a 550-bbl. pumper, the oil being clean and testing 26.6 degrees. This is the first pumping project which the Pan American has finished at Alamitos Heights up to the present, although No. 1 Kellos is scheduled to be put on the beam within a few days. The Superior Oil Co. listed three new wells for completion, the largest being No. 1 Horowitz. This new well came in flowing 475 bbls. of clean 27.1 gravity oil from 4,825 feet, the hole being finished with a 6½-inch liner, 95 feet of which was 80 mesh screen. No. 1 Green was put on a compressor at 4,820 feet and brought in doing 330 bbls. of clean 26.6 gravity oil daily. The Superior's No. 2 Fee was put on the beam at 4,800 feet and while it started off doing 250 bbls. daily it failed to hold up and has been standing idle for several days. George F. Getty, one of the most successful independent producers at Alamitos Heights, added another new producer as the result of the completion of No. 5 Alamitos which started off flowing 1,375 bbls. of clean 27.1 gravity oil daily from 4,815 feet. Getty carried this well down considerably deeper than his previous completions and as a result of the favorable production secured No. 2 Alamitos has been taken off production and is being redrilled and deepened from 4,683 feet to around the 4,800-foot level. Nos. 8, 9 and 10 are also scheduled to be completed around 4,800 feet if bottom water is not encountered.

California Petroleum, following the precedure of the Petroleum Securities in

(Continued on Page 109)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well, Location—	S-T-R	Depth	Status
Smith Pet. Co., No. 1 Johnson, Hawthorne	17- 3-14	6,215	suspended
General Pet., No. 1 Gulberson, Potrero	35- 2-14	Rig	wait. devel.
Cal. Eastern, No. 1 Cypress, Potrero	27- 2-14	4,230	sd. sh. drilling
Associated, No. 1 Cypress, Potrero	34- 2-14	4,450	suspended
Associated, No. 2 Cypress, Potrero	2- 3-14	3,309	br. sh. drilling
Getty, George F., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Getty, Paul, No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
California Pet., No. 1 Sutton, Potrero	34- 2-14	Rig	wait. devel.
California Pet., No. 1 Armour, Potrero	35- 2-14	Rig	wait. devel.
Cole, Fred. E., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Dill Oil Co., No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Walker, Fred, No. 1 Cypress, Potrero	35- 2-14	Rig	wait. devel.
Dominguez Exten., No. 1 Compton, Dominguez	22- 3-13	5,530	suspended
Getty, George F., No. 1 Tubbs, Rivera	25- 2-12	3,047	gr. sd. drilling
Circle Oil Co., No. 1 Pomeroy, Manchester	22- 3-14	4,128	suspended
Shell, No. 1 Mission, San Fernando	4- 2-15	715	land 18-inch
Sou. Calif. Drlg. Co., No. 1 Matteson, El Segundo	1- 3-15	4,870	fishing
Petroleum Sec., No. 1 West, El Segundo	27- 4-14	3,316	abandoning
Carr, O. P., No. 2 Foster, San Juan Capistrano	13- 8- 8	2,140	gr. sd. drilling
Cardiff Oil Co., No. 1 Oceanside, San Diego	24-13- 4	2,805	redrilling
O'Donnell, J. E., No. 1 Julian City, Los Angeles Co.	7- 4-14	4,049	sd. sh. drilling
Fisher & Co., No. 1 Rinz, Saugus	27- 5-16	Rig	rigging up
Southwestern Pet. No. 1 Ramsauer, Watts	4- 3-13	835	fishing
Reliance Inv. Co., No. 1 Leuzinger, Los Angeles Co.	8- 3-14	1,125	gas-shut in
Shell, No. 1 Allec, Placentia	31- 3- 9	1,201	sd. drilling
Standard, No. 1 Olive, Orange Co.	17- 4- 9	Rig	rigging up
Standard, No. 1 Rindge, Palms	36- 1-15	Rig	litigation

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Associated, No. 1 Smith, Kettleman Hills	12-23-18	2,043	suspended
Bolsa Chica, Well No. 1, Kettleman Hills	30-23-19	2,365	cmtd. oil sd.
General Pet., No. 1 Burbank, Kettleman Hills	30-23-19	3,105	testing
General Pet., No. 1 Dome, Kettleman Hills	26-22-18	1,905	gr. sd. drilling
C. C. M. O., No. 1 McGashan, Kettleman Hills	17-24-19	3,386	gr. sd. drilling
South Coalinga, Well No. 1, Kettleman Hills	35-24-19	2,195	testing
Gilbert, W. M., No. 1 Barritt, Kettleman Hills	20-23-19	Rig	rigging up
Ahlburg Gas Co., Well No. 1, Kettleman Hills	7-23-23	Rig	standing
Milham Explt'n., No. 1 Kettleman, Kings Co.	2-22-17	3,291	sd. sh. drilling
Shell, No. 2 Berlywood, Moorpark	32- 3-20	3,518	hd. sd. drilling
C. C. M. O., No. 1 Hobson, Ventura Co.	22- 3-24	6,470	br. sh. drilling
C. C. M. O., No. 1-B Hobson, Ventura Co.	16- 3-24	4,394	br. sh. drilling
Continental Oil Co., No. 1 Newhall, Ventura Co.	36- 4-18	2,595	testing
Continental Oil Co., No. 1 Burnham, Ventura Co.	22- 5-18	2,340	gr. sd. drilling
Milham Explt'n., No. 1 Sexton, Ventura Co.	19- 3-22	7,100	fishing
Standard, No. 1 Camarillo, Ventura Co.	29- 2-20	5,070	hd. sd. drilling
Standard, No. 1 Montalvo, Ventura Co.	17- 2-22	5,564	hd. sd. drilling
Petroleum Sec., No. 1 Diablo, Ventura Co.	4- 4-18	2,168	hd. sd. drilling
Rio Grande, No. 1 Canet, Ventura Co.	9- 3-23	4,962	abandoning
Parkford, E. A., No. 1 Strathern, Ventura Co.	5- 2-18	2,850	hd. sd. drilling
Star Petroleum, No. 1 Canet, Ventura Co.	13- 3-23	4,655	sd. sh. drilling
Richfield, No. 1 Janes, Ventura Co.	16- 5-18	2,076	gr. sd. drilling
Richfield, No. 27 Piru, Ventura Co.	35- 5-18	1,495	suspended
Superior, No. 1 Pena, Ventura Co.	18- 4-17	5,030	sd. sh. drilling
Milham Explt'n., No. 2 Buttonwillow, Kern Co.	8-28-23	4,662	clean. out
Milham Explt'n., No. 3 Buttonwillow, Kern Co.	7-29-24	3,416	bl. sh. drilling
Pacific Eastern, No. 1 Bakersfield, Kern Co.	6-30-28	4,075	recemented
C. C. M. O., No. 1 Quinn, Delano	23-25-27	1,723	recemented
Muroc Dev. Co., No. 1 Rosedale, Kern Co.	13-29-26	1,470	gr. sd. drilling
Barnes Oil Co., No. 1 Edison, Kern Co.	20-28-29	2,074	discovery well
Barnes Oil Co., No. 2 Edison, Kern Co.	18-28-29	370	port. outfit.
Standard, No. 1 Bacon, Kern Co.	27-28-20	2,602	gr. sd. drilling
Petroleum Sec., No. 1 Aniotz, Monterey Co.	2-22- 9	2,250	hd. sd. drilling
Birch Oil Co., No. 1 Porterville, Tulare Co.	13-20-26	150	sd. drilling
Richfield, No. 1 Wreden, San Luis Obispo Co.	10-29-17	721	gr. sd. drilling
Shell, No. 1 Cowell, San Mateo Co.	16- 5- 5	3,551	hd. sd. drilling
Shell, No. 1 Murphy, Petaluma	29- 5- 6	5,274	hd. sd. drilling
Thomas & Hammill, Well No. 1, Alameda Co.	16- 3- 3	1,040	hd. sd. drilling

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This week	Daily Average	Total Last week	Daily Average	This year To date	Same time Last year
Crude oil	255,207	36,458	359,006	78,382	3,234,011	5,773,913
Fuel oil	269,093	38,442	365,389	52,198	3,831,280	2,456,065
Diesel and gas oil	.....	.....	.....	.....	1,386,653	1,102,177
Gasoline	170,045	24,292	247,096	35,299	3,066,762	2,626,737
Tops	.....	.....	.....	.....	.....	149,906
Coastwise—						
Crude oil	603,912	86,273	729,167	104,167	11,097,306	11,105,749
Fuel oil	262,415	37,488	.....	.....	5,030,372	3,810,108
Diesel and gas oil	32,457	4,637	.....	.....	128,060	125,672
Gasoline	240,837	34,405	163,397	23,342	3,388,225	3,174,831
Kerosene	5,629	804	.....	.....	50,897	138,950
Tops	.....	.....	.....	.....	.....	251,082
Exports—						
Crude oil	.....	.....	.....	.....	1,400,029	1,770,715
Fuel oil	277,278	39,611	640,117	91,445	11,053,702	6,531,197
Diesel and gas oil	19,221	2,746	46,748	6,678	543,482	145,201
Gasoline	347,998	49,914	158,642	22,663	1,443,774	2,056,762
Tops	.....	.....	.....	.....	227,204	.....
Kerosene	.....	.....	6,970	976	1,017,144	869,104

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Crude oil	.....	.....	.....	.....	.....	.....
Fuel oil	.....	.....	.....	.....	.....	.....
Diesel and gas oil	.....	.....	.....	.....	415,555	647,367
Gasoline	.....	.....	71,493	10,213	961,581	608,848
Tops	.....	.....	.....	.....	.....	73,698
Kerosene	.....	.....	.....	.....	.....	.....
Lubricants	.....	.....	.....	.....	111,970	157,147
Coastwise—						
Fuel oil	111,388	15,913	150,797	21,542	2,379,131	2,369,413
Diesel and gas oil	.....	.....	.....	.....	173,724	.....
Gasoline	57,661	8,237	147,484	21,069	2,070,994	1,713,816
Kerosene	.....	.....	15,470	2,210	90,621	175,802
Exports—						
Fuel oil	59,470	8,496	72,905	10,415	925,554	1,027,314
Diesel and gas oil	.....	.....	.....	.....	.....	.....
Gasoline	127,873	18,267	175,437	25,062	1,673,011	896,785
Kerosene	.....	.....	25,460	3,637	535,647	816,039
Lubricants	.....	.....	.....	.....	9,120	18,051

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Frick-Reid Service Belting
Rubber Covered and Friction Surface.

Jensen Bros. Mfg. Co.
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National Transit Pump and Machine Co.
Power and Steam Pumps.

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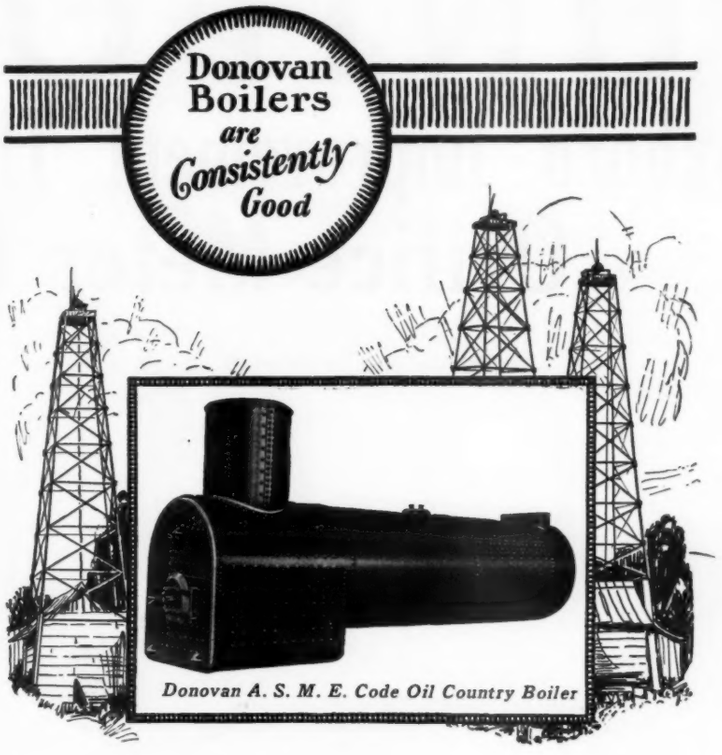

HAVE you ever thought how a boiler is always in a sense "out of the picture?" Interest centers on the derrick floor, while the boiler is off there somewhere, of no particular interest to anyone except the fireman as long as it does its work. To mention it would be like commenting to friends at a dinner party in New York about the dependability of the City power plant.

A recent issue of The Oil and Gas Journal told about an engineer with forty years experience in the petroleum industry who became interested in Donovan Boilers only after observing a factory test of a 60 H.P. 150 lb. working pressure ASME Code Donovan. At 225 lbs. hydrostatic it was bottle tight, which led the engineer to check the construction and pronounce it the best boiler he had ever seen. When his company needed boilers later on, he naturally insisted on Donovans.

It gives you some idea of how hard it is to impress the oil man with superiority in Donovan Boilers. The very fact that they are consistently good keeps them consistently out of the limelight.

But Donovans always have been remarkable boilers. We just uncovered photographs and data in our files about a 25 H.P. Donovan in West Virginia which was drilling seven years ago at 4300 feet, and had been in service more than five years with no repairs whatever except one new gas flue.

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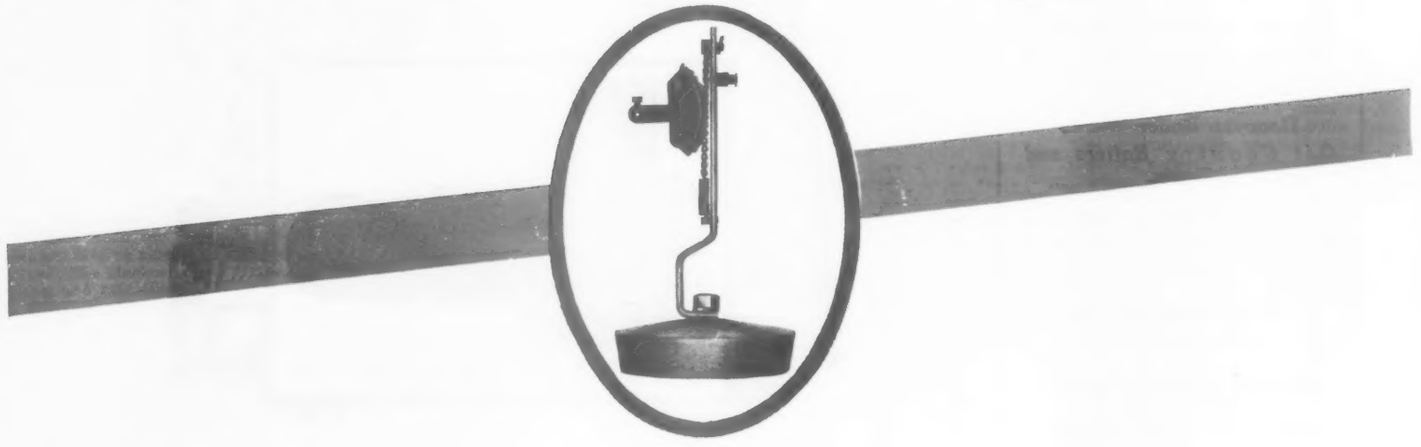

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It is the most powerfully actuated float type meter on the market. Note the 3¼ inch diameter machined steel float.

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Gas Companies Active in Central Ohio

Occasionally Turn Up Good Oil Producers. Gibson County, Indiana, Gets 35-Bbl. Well in Advance of Production

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, June 4.—In the Central West fields fewer wells were completed and new production was considerably below the previous week. Weather conditions have been against development work owing to the heavy rains and bad condition of the mud roads, the worst feature being the moving of heavy material from the highways to the locations on the leases.

The total completions for the week were 17, with 4 dry holes, 1 gas well and 12 producing wells with a combined initial production of 139 bbls. Of this number five were in the Lima Field; seven in Indiana; two in Illinois and three in the Central Ohio Field. The last-named field shows the most activity in new work as most of the operating is done by the large gas companies, that usually start their drilling about this season to accumulate a supply of gas for the future. Many of the wells are testing out new territory, some far in advance of production and others within almost defined territory. The largest producer recorded in the Central West area for the several days past was in Washington Township, Gibson County, Indiana, where a well drilled in a short time ago as a gasser, was drilled a few feet deeper and produced 35 bbls. initially. This was a test slightly in advance of production, No. 1 on the Frank Thompson farm. The next best producer was a 20-bbl. producer on the Brinkerhoff farm, in Bear Creek Township, Jay County, Indiana.

Lima Field

Very little is being done in the way of field work in the old Lima Field of northwestern Ohio, which is something out of the ordinary, for usually at this season the drill is active. Only about 26 strings are working in an area stretching over 100 miles northeast and southwest and from a few miles to at least 60 miles north and south. The wells are usually small producers with few dry holes. There is still a large acreage on all sides of the Trenton rock development that will furnish light pumpers.

A. C. Grace branched out a little in advance of production and drilled a test well on the James Harner farm, in the southwest quarter of Section 4, Center Township, Mercer County, north of the St. Marys Reservoir, 5 miles north and approximately 2 miles east of Celina, getting an 8-bbl. initial producer. The second well has just been completed 900 feet from the north line and 300 feet from the south line of the same farm, which is marked on the oil map as the James Ferguson farm. Top of sand was found at 1,117 feet and drilled 46 feet in the sand, for a 12-bbl. initial producer. Wells in the territory to the north and west of Celina have proved light in initial production, but they decline very rapidly. Dave Miller, a well-known Trenton Rock operator, now a citizen of Celina, formerly a resident for many years in Toledo, Ohio, after which he went to Sedan, Kans., then returning to the Trenton Rock Field, has been doing some work northwest of Celina and says the wells are off to about one-half barrel each day.

Milton J. Beaty drilled his third well 750 feet from the north line and 200 feet from the west line of the J. and John J. Hufford farm, mapped as the J. G. Hufford farm, in the southwest quarter of Section 35, Washington Township, Sandusky County, the initial production being 5 bbls. Top of Trenton was at 1,324 feet and it was drilled 47 feet in the sand.

Mercer County

Near Fort Recovery, in Recovery Township, Mercer County, A. W. Neely and others' No. 8, on the H. J. Stackler farm, Section 25, showed an initial of 9 bbls.

About 4 miles west of Buckland in Moulton Township, Auglaize County, H. F. Kelly and others' test, on the M. Kelly farm, Section 7, is a 3-bbl. pumper. This is on the outer edge of the old development of many years ago. Tester and others are drilling a test on the Fred Weitz farm, Section 2, Washington Township, same county, about 6 miles east of St. Marys and about 2 miles southwest of Wapakonetta.

Two new wells are reported under way in the McComb district of Pleasant Township, Hancock County, northwest of Findlay. The Eastern Oil Co. is drilling No. 3 on the Sarah Rader farm, Section 14, and the Bath Township Oil Co. is drilling No. 6 on the Cains-Henry farm, same section.

In Marion Township, Allen County, northwest of Lima, the Ohio Oil Co. has abandoned No. 3 on the Judkins-Ford farm, Section 16, and No. 4 on the David Culp farm, Section 8. In American Township, also northwest of Lima, William Lang abandoned No. 2 on the Good & Tucker farm, Section 11.

South Bend Oil Producers Co. is drilling No. 1 on the C. A. Cooper farm, Section 12, Ridge Township, Wyandot County. In McDonel Township, Hardin County, in the Roundhead Field, H. E. Schmidt is drilling No. 6 on the Earl Hites farm.

In Cynthian Township, Shelby County, the Ohio Oil Co. is drilling No. 6 on the Theressa Goffena farm, Section 35, and in Van Buren Township, same county, the Brookside Oil & Gas Co. is drilling No. 2 F. W. H. Kuckerman farm, Section 29.

Indiana

No section of the Indiana Field showed anything startling in the way of good wells, like the one completed the former week by Joe S. Young, Jr., and others in a test on the D. Jenkins farm, Section 13, Center Township, Gibson County, with an initial natural production of 150 bbls. The best producer for the week was made in the same county but in Washington Township by Bell Brothers, in their test, 200 feet from the south line and 600 feet from the east line of the Frank Thompson farm, in the southwest quarter of Section 6. This well was reported several days ago as a gas well but by a little deeper drilling developed into an initial producer of 35 bbls. Top of sand was found at 1,562 feet and the oil at 18 feet in the sand. In the same township, Gray Morrisey and others' second test in the northwest corner of the Margaret A. Mauck farm, in the southwest quarter of Section 29, produced but 1 bbl. initially. Top of the sand was at 1,568 feet and drilled 67 feet in the sand. Joe S. Young, Jr., and others are starting their second well on the D. Jenkins farm, Section 13, Center Township.

In Logan Township, Pike County, Claud Chandler and others hit a duster at a test in the southeast corner of the Lona Miley farm, in the northeast quarter of Section 14, at 1,350 feet. This well is close in to production, but the territory in that vicinity has proved rather spotted.

In Veale Township, Daviess County, southwest of Washington, reports no completions, but has some new wells starting. Cavinal and others are drilling No. 3 on the J. C. Allison farm, Section 35; Phipps & Blosser are doing the same at No. 1 on the Otto Barber farm, Section 22, and I. L. Lee is drilling No. 1 J. Davis farm, Section 21.

Eastern Indiana

The best completion in the old Trenton Rock area of eastern Indiana, was by R. P. Ridenour, trustee, in No. 4 on the C. Brinkerhoff farm, Section 21, Bear Creek Township, Jay County, good for 20 bbls. In Penn Township, same county, the Twin Hills Oil Co. is drilling a test on the J. E. Gardner farm, Section 24, about 2 miles south and close to 7 miles east of Montpelier. The A. O. P. Oil Co., of Indiana, is drilling No. 6 on the N. Thomas farm, Section 21, same township, and 3 miles west of the drilling well on the Gardner farm. East of Hartford City about 10 miles, Sanders and Masters drilled in a dry hole at a test on the D. R. Hapner farm, Section 3, Knox Township, same county. This well is 2 miles north and about 9 miles west of Portland, in the southwestern part of the county. In Jackson Township, James J. Adams abandoned his No. 13 on the P. Hamilton farm, Section 12.

In Nottingham Township, Wells County, A. Albrecht abandoned No. 1 on the Thomas Prouty farm, also No. 1 on the W. B. Settle farm, both in Section 31. The Lewis Oil Co. is drilling No. 11 on the J. K. Davis farm, Section 19, Liberty Township, same county.

In the Berne Field extension, in Jefferson Township, Adams County, the G. B. W. Oil & Gas Co.'s No. 4, on the Fred Kauffman farm, Section 5, is a 15-bbl. pumper. In Hartford Township, D. Abronson abandoned No. 9 M. J. Martin farm, Section 24, also No. 6 on the Jacob F. Masser farm, Section 13, and the Richberne Oil Co. is drilling a test on the A. Egly farm, Section 13. Unknown parties are drilling a test on the C. A. Neuenschwander farm, Section 4, Wabash Township.

At last report a test well drilling near Acton in Marion, had reached a depth of 50 feet in the Trenton, with no indications worth while.

In Liberty Township, Delaware County, the Producers Supply & Drilling Co. abandoned Nos. 3, 4, 8 and 10 C. E. Sutton farm, Section 24; No. 1 Sarah McAllister farm, same section, and Nos. 2, 3, 4, 5 and 6 J. Cline farm, Section 34.

In Monroe Township, Randolph County, C. F. Chapman abandoned Nos. 3 4 and 5 J. Meeks, Section 17; Nos. 1, 6 and 7 W. D. Stuck, Section 8; Nos. 2 and 3 Charles Jackson, and Nos. 1 and 2 Martha Adams, Section 1. In Jackson Township, M. B. McCarty pulled out No. 1 S. J. Brunson farm, Section 18.

Illinois

Only two completions were reported from the Illinois fields, both being in Wabash Township, Wabash County. Joe S. Young, Jr., and others' No. 1 well,

(Continued on Page 94)

BETTER PRICES AND REFINERY ENCOURAGING SAGINAW FIELD

By Whit

SAGINAW, Mich., June 4.—The most interesting news in the Saginaw Field for some time was the announced advance in the price of crude produced from two separate sands in the field. Heretofore the price for both sands were the same, the Berea sand being about a 44 gravity and the Saginaw sand 47 gravity. The new posted price by the Sun Oil Co., is Berea sand oil, $1.95 per barrel and Saginaw sand oil, $2.05 per barrel. Previously the price was $1.71 a barrel, the new price taking effect on Friday, May 27.

With a better price for Saginaw crude there will be more field activity as the operators feel the market is more stable now and the assurance that the Standard Oil Co. of Indiana will enter the field with a refining plant makes everything look more encouraging.

The Saginaw Field is gradually growing larger, by the finding of commercial production on the east side of the Saginaw River, the field being close to 4 miles in length in a northwest and southeast direction, covering a large portion of the city of Saginaw and its suburbs.

So far as development work has gone in the field the Berea sand has been found to be the most stable producing formation, as the Saginaw sand has proved very spotted, while little can be said of the lower formation, the Dundee sand, as not enough tests have yet reached that sand. The Bliss Petroleum Co.'s second well, on the Fred Engle farm, Section 10, Saginaw Township, to the northwest of the discovery well more than a mile, has been delayed for some time in an effort to set a string of 5 3/16-inch casing to shut off water believed to be coming in at the bottom of the hole. A stem was dropped into the hole causing a fishing job. After several days of fishing and inability to get the stem an effort is being made to drill by the tools. This well found the top of the Dundee at 2,934 feet and drilled 43 feet into that formation and having a nice showing of oil, was shot with 200 quarts. A stray sand showing was also found in a sand below the Saginaw sand in this well at around 2,450 feet. Another well that had a nice showing in the lower sand was the J. & S. Development Co.'s well on the John Sliva property at Deindorfer and Charles Streets, which topped the Dundee at 2,900 feet and went 78 feet in that formation. This well bailed 25 bbls. but is yet not completed.

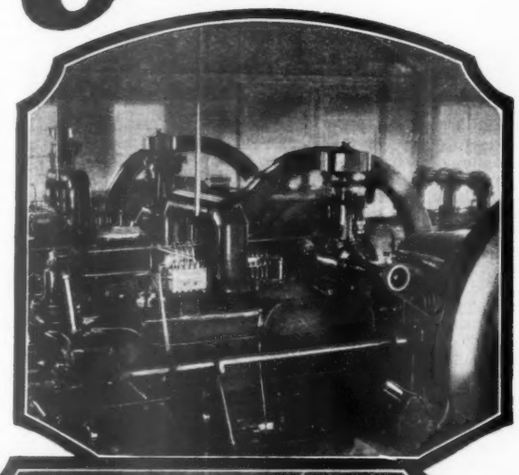
Saginaw Sand Tests

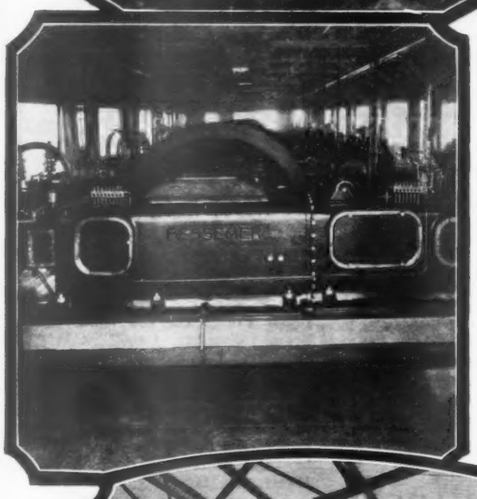
Every well within the Berea sand area drilled to the deeper Saginaw sand does not by any means prove a commercial producer from the lower sand, owing to it being of a spotty nature. One Saginaw sand well just drilled in by A. W. Benjamine, trustee, on the Benjamine property, corner of Michigan and Irving Avenues, struck the top of the Saginaw sand at 2,306 feet and top of the pay was found at 2,312 feet. Advice from one of the owners is that the well swabbed 50 bbls. on Saturday and will be put on the pump.

The Ohio Fuel Corp. drilled its No. 4 on the Fisher farm, in the northwestern edge of the pool through the Saginaw sand where no oil showing was found and concluded to try out for the Stray sand found by the Bliss Petroleum Co., in No. 2 Fred Engle farm, at 2,490 feet and after drilling 25 feet below to a total depth of 2,515 feet shut down, with

(Continued on Page 97)

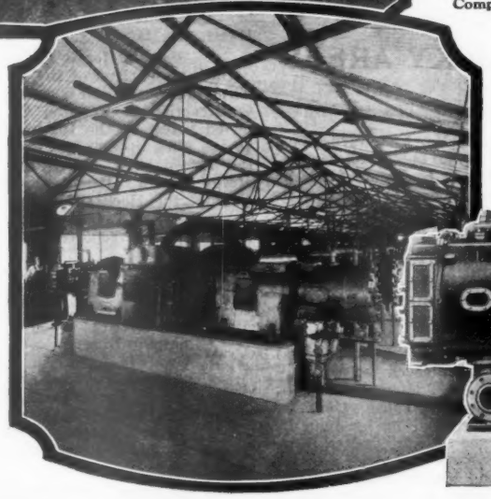
For *Gasoline Plants, Booster Stations and for Flowing Wells*



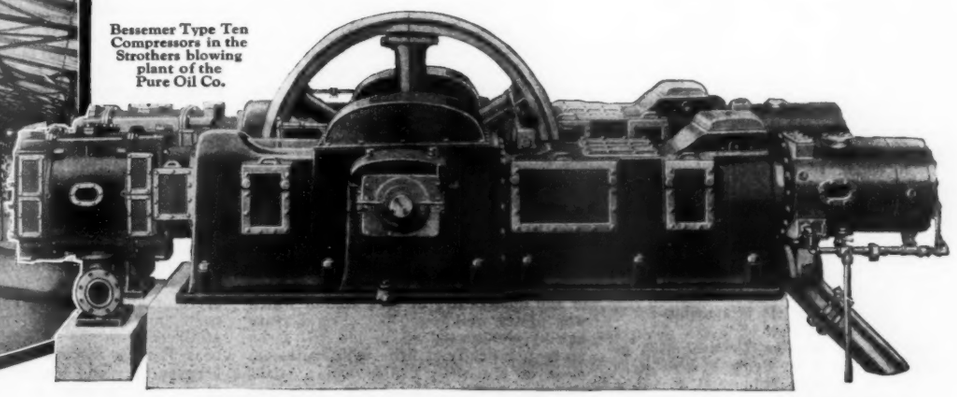


Direct driven Bessemer Compressors in an Oklahoma Natural Gas Co. booster station.

An installation of 200 H. P. Bessemer Four-Cycle Compressor in the Rosecrans plant of the Industrial Fuel Supply Company



Bessemer Type Ten Compressors in the Strothers blowing plant of the Pure Oil Co.



NO MATTER what service you may have for a compressor, you must have compression efficiency, high average running time and low maintenance and operating cost to make your compressor investment a profitable one.

The reason there are so many Bessemer Compressors in service today is simply because Bessemers have proved their greater value by actual performance in all types of service, under all field operating conditions.

The Bessemer average of 99%+ running time is consistently maintained in gasoline plants, booster stations and for flowing wells. Their maintenance cost is invariably lower, their life of service longer and their depreciation less. Any Bessemer compressor user will tell you convincingly why Bessemers are better. Ask one.

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TWO-CYCLE AND FOUR-CYCLE COMPRESSORS

Southeast Ohio Producers Largest

Guernsey, Holmes and Licking Lead Eastern Fields During Week. Henry District West Virginia's Most Promising

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., June 6.—Operators in the eastern fields are not inclined to start any new work, except to drill offset wells or protect leases. In the East there is no need of a shutdown movement, for there is no excuse for starting new wells so long as the market remains so low that the majority of the wells completed will be a long time in paying back the money invested. When the industry gets back to normal and the market advances to a point that will make it an incentive to drill, operators will go back to the old fields and try again for new production.

It has now been more than two years since the last new pool in Henry district, Clay County, was discovered and it is still the most active in the State. During the same period, the Niagara lime formation in Guernsey County, Ohio, was found to be a prolific gas producer and during the past year has completed many large oil wells.

A summary of the best wells completed for the week shows most of them to be located in the deep sand territory in Southeast Ohio. No large wells were completed in West Virginia or Southwest Pennsylvania.

In the southeast quarter of Section 6, Guernsey County, the Ohio Fuel Supply Co.'s No. 7 on the Lenora J. Fulton farm is good for 50 bbls. a day. In the northeast quarter of Section 11, Westland Township, the Pure Oil Co. has a 40-bbl. producer at a second test on the A. A. White farm.

In Section 11, Hanover Township, Licking County, the Edward H. Everett Co. completed a test on the Laura Shipley farm. It produced 95 bbls. after shot in the Clinton sand.

West Virginia has a few wells better than the average size. In Henry district, Clay County, the Virginian Gasoline & Oil Co. got a 30-bbl. producer at No. 11 on the Lockhart tract. In the same district, the Ohio Fuel Oil Co. has a 25-bbl. producer at a test on the J. and L. J. Reed farm.

Late Completions

The Empire Gas & Fuel Co. completed No. 5 on the Delpha Netherrow farm, in Section 16, Hardy Township, Holmes County, good for 90 bbls. a day in the Clinton sand. In the southwest quarter of Harrison Township, Perry County, Schull, Bloom & Larmer have completed in the same formation a test on the E. W. Bradshaw farm. It is a duster. In the southwest quarter of Section 20, same township, the Melick Oil Co. has completed in the Clinton sand a test on the A. J. Burley farm. It is showing for a 15 or 20-bbl. pumper.

In Lot 31, Chester Township, Meigs County, Barneby & Frick have a light pumper in the Cow Run sand at a test on the Lucinda Genheimer farm.

West Virginia

The South Penn Oil Co. has completed No. 7 on the R. B. Parker farm, in Henry district, Clay County. It is a 10-bbl. pumper in Big Injun sand. In Union district, Harrison County, the Hope Natural Gas Co. has drilled down to the Speechley sand a test on the Marshall farm. Gas was developed in the lower sand.

In Duval district, Lincoln County, E. R. Cameron's No. 7 on the George F. Anderson farm is a gasser in the Berea grit. In Carroll district, the Cambridge Gas Co. has a gasser in the same formation at a test on the J. M. Lucas farm.

In Sheridan district, H. H. Dial & Co.'s test on the Alice Ferrell farm is a gasser in the same formation.

In Liberty district, Marshall County, the Manufacturers Light & Heat Co. has a 5-bbl. pumper in the Gordon sand at a second test on the L. A. and E. C. Pyles farm. The Carnegie Natural Gas Co.'s test on the E. Stephens farm, in Center district, Wetzel County, is a Gordon sand gasser. In the same district, the same company's No. 2 on the Rufus Long farm is dry and abandoned.

In Cameron district, Marshall County, the Lynn Camp Oil Co. has a gasser in the Gordon at a test on the John A. Hicks farm. In Center district, Gilmer County, McIntosh & Co. have a gasser in the Big Injun sand at a test on the George H. McCoy farm.

In Lee district, Calhoun County, Martin Crawley has a gasser in the Big Injun sand at a test on the John Slider farm. In Reedy district, Roane County, the Heck Oil Co.'s test on the E. R. Tallman farm is good for 15 bbls. a day in the Berea grit formation.

Henry District, Clay County

In Henry district, Clay County, the Ohio Fuel Oil Co. completed through the Big Injun sand a test on the P. C. Reed farm good for 25 bbls. a day. In Greenbrier district, Doddridge County, the Hope Natural Gas Co. has drilled deeper its No. 3,847 on the Stalnaker heirs' farm, and it is dry at a depth of 3,100 feet. In West Union district, the same company's test on the Henry Smith farm is a gasser in the Big Injun sand.

In Union district, Ritchie County, D. M. Heckert has a gasser in the Squaw sand at a test on the A. L. Britton farm. In the same district, the Hope Natural Gas Co. has the rig completed for a second test on the T. A. Mason farm. On Sand run, Big Sandy district, Kanawha County, the Ohio Fuel Oil Co. shot in the Squaw sand its test on the C. T. Wood farm and increased its production from almost nothing to 3 bbls. a day.

Henry district, Clay County, is furnishing the best producer in the West Virginia fields. It is also the most active district in the state. The Virginian Gasoline & Oil Co. has completed in the Big Injun sand No. 11 on the Lockhart tract and is good for 30 bbls. a day. The location is 150 feet north of the test on the Hively School lot. No. 12 on the same tract will be due in the sand in a few days. In the same district, the United Fuel Gas Co. is due in the sand at a test on the Gross-Summers farm. The same company is drilling tests on the J. M. Gross and S. S. Moore farms. The Ohio Fuel Oil Co. has started to drill a test on the P. and M. Reed farm.

On Big Sandy Creek, Reedy district, Roane County, the Heck Oil Co. has completed and shot in the Berea grit No. 5 on the D. H. Borroughs farm, good for 10 bbls. a day.

Gassers in Boone County

In Sherman district, Boone County, the Pure Oil Co.'s No. 11 on the Federal Coal Co.'s property is a gasser in the Berea grit. The same company's No. 19 on the same property is a gasser in the same formation. The same company has completed No. 27 on the Lafollette, Prichard & Robson tract, and it is a light gasser.

In Lincoln district, Harrison County, B. M. Bolman is drilling a test on the Emma Holden farm. In Grant district, the Hope Construction & Refining Co. is drilling on the Marshall Martin farm. In Ten Mile district, the Carlton Oil & Gas Co. has the rig completed for a second test on the J. W. Harbert farm.

In Mannington district, Marion County, J. A. Mason is drilling down from the Big Injun sand his test on the D. F. Yost heirs' farm. It will be drilled to the fifth sand if nothing is developed before reaching that formation.

In McElroy district, Tyler County, the Hope Construction & Refining Co. is drilling a test on the Raleigh Gray farm. In the same district, the McIntyre Oil Co. has a rig upon the Mary Eddy farm. In Magnolia district, the Silver Hill Oil Co. has the rig completed for a test on the Mirah Barth farm.

Starting Tests

On Dry Ridge, Grant district, Ritchie County, the Astron Oil Co. has made a location on the Stursberg Realty Co.'s property. In the same district, J. C. Charter has started to drill down old No. 1 on the William Foutty farm, from the salt sand to the Big Injun. In Union district, Lincoln County, the Foote Oil & Gas Co. has started to drill on the E. G. Stoneman farm. In Duval district, the Cameron Oil & Gas Co. has a rig up on the Malinda Meadows farm. In Sheridan district, G. T. Ray & Son are due in the sand on the Herbert Adkins farm.

On the waters of Mud River, Carroll district, Lincoln County, Meabon & Huffman have completed and shot in the Berea grit No. 7 on the Charles Gillenwater farm. It is a light gasser, 100 feet west of No. 6 on the same lease. On the same river and same district, C. C. Wolfe and others have completed a test on the J. M. Bird farm. It is a gasser good for 175,000 feet. This location is 1 mile north of the mouth of Trace Fork. On the same stream in Grant district, Cabell County, the Monickel Gas Co. has completed and shot in the Berea grit a test on the C. A. Nicholson farm. It is a gasser. One-half mile southwest of the above well, the same company has started to drill on the L. F. Johnson farm. The same company has also started to drill on the L. E. Muelrucker farm.

Showing for a Producer

On Simpson Run of Indian Creek, McElroy district, Tyler County, the Hope Construction & Refining Co. has completed a test on the Ingram Gray farm. It has filled up 800 feet with fluid from the Mason sand. On Seaman Fork of Reedy Creek, Reedy district, Roane County, the Heck Oil Co.'s test on the A. D. Tallman farm is good for 25 bbls. a day. It was reported as good for 15 bbls. a day.

In Mannington district, Marion County, the Hope Natural Gas Co. is due in the sand on the C. J. Cunningham farm. In Walker district, Wood County, Forrest Cline is drilling a second test on the J. W. Goodwin farm. In Clay district, Ira Connelly has shut down at his test on the W. L. Upton farm. In Sheridan district, Calhoun County, the Great Elk Oil Co. is drilling No. 26 Samuel Bachman farm and has made the location for No. 28.

On the waters of Sinking Creek, Dekalb district, Gilmer County, the South Penn Oil Co. has the rig completed for a test on the Lincoln Ellyson farm, 1,500 feet north of the test on the Rosie Ellyson farm. In the same locality, the South Penn Oil Co. also has a rig up on the Gertie Ellyson farm. In Grant district, Pleasants County, James Smith & Co. are drilling a test on the William McTaggart farm. In Grant district, Ritchie County, the Hope Natural Gas Co. is building a rig on the J. T. Cain farm.

Southeast Ohio

In the deep sand territory in Southeast Ohio, in Lot 25, Hardy Township, Holmes County, the Empire Gas & Fuel

(Continued on Page 97)

OHIO AND BARREN COUNTIES ARE BUSIEST KENTUCKY AREAS

By Whit
Staff Correspondent, Kentucky-Tennessee

BOWLING GREEN, Ky., June 6.—The two outstanding districts of Kentucky at this time are Ohio and Barren Counties, in the western division, as very little is doing in the eastern half of the state. Warren and Allen Counties are completing an occasional well but they are either dry holes or small producers. Warren County the past few weeks has been hard hit in the way of dry holes, but this can be accounted for, as operators have been making an effort to find commercial production close up to the hamlet of Alvorton, some 11 miles east of Bowling Green and the greater number of the dusters are in that section which was pretty well tested out several years ago by well-posted oil people and given up as practically of little value, although most of the wells drilled had a slight showing of either oil or gas. Ohio and Daviess Counties, known as the Hartford-Whitesville Field, and the Glasgow Field of Barren County are listing the greater number of developments, while Johnson-Magoffin Counties lead in the eastern division. The completions in Ohio County keeps the Kentucky Field before the public, owing to its good wells, for out of nine completions in the county for the past several days six were above the century mark in production, Nos. 14, 15 and 16 Weller farm, in the Ambrose Pool, of this county, showed initial production of 140, 160 and 175 bbls.; No. 7 Scott Ambrose farm, 120 bbls.; No. 3 J. I. Bartlett farm, 100 bbls.; No. 5 Mary J. Elmore farm, 125 bbls.; No. 4 same farm, 70 bbls., and No. 1 Howard farm, in the Midkiff Pool, 30 bbls.; and one dry hole in a test on the K. Hogan farm, in advance of production. This proved to be a good week for the Ambrose Pool, where a great number of wells are being drilled and many others planned. Not alone the Ambrose Pool but nearly every part of Ohio, Daviess and Hancock Counties is in for much test work outside of defined limits.

Tennessee failed to report any new completions, but there are at least several that are about due to reach the pay sand in Clay County alone. Lyman C. Scott, operator and leaser, of Toledo, Ohio, reports that the well drilling by John H. McClurkin on the Doctor Tucker farm, near Boiling Springs and near the line between Clay and Macon Counties, is one of the most peculiar he has ever seen in his many years in the oil fields. At the depth slightly below 300 feet, the tools have been blown from the hole numerous times by heavy gas and at one time was sent high above the mast of the drilling rig. The gas is very wet and it looks like something in the way of a large oil pool exists in the vicinity.

Week's Work

A summary of the week's work in the Kentucky fields shows 29 completions, 18 producers with an initial production of 991 bbls., 8 dry holes and 3 gas wells. When compared with the previous week there are the same number of completions, 3 less producers, 295 bbls. more

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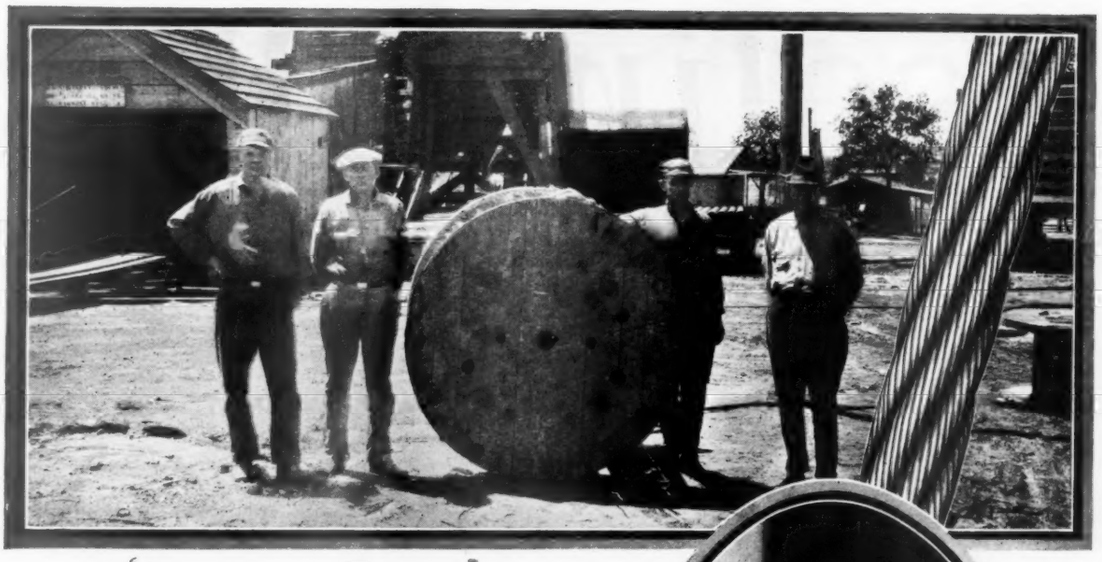

Wewoka's Largest Well

Drilled with American Wire Line

Magnolia's Bagwell No. 4, Wewoka, which came in April 23rd producing 5,500 bbls. though pinched in, was drilled with an American Steel & Wire Company drilling line. Bagwell No. 4 is Wewoka's largest well from the standpoint of initial production of good oil.

Left to right, the drilling crew are: C. K. Shields, Tooldresser; C. H. Lann, Driller; J. W. Masters, Tooldresser; B. P. Walters, Driller.

AMERICAN Steel & Wire Company's Wire lines lead in the oil fields for one reason only—genuine merit.

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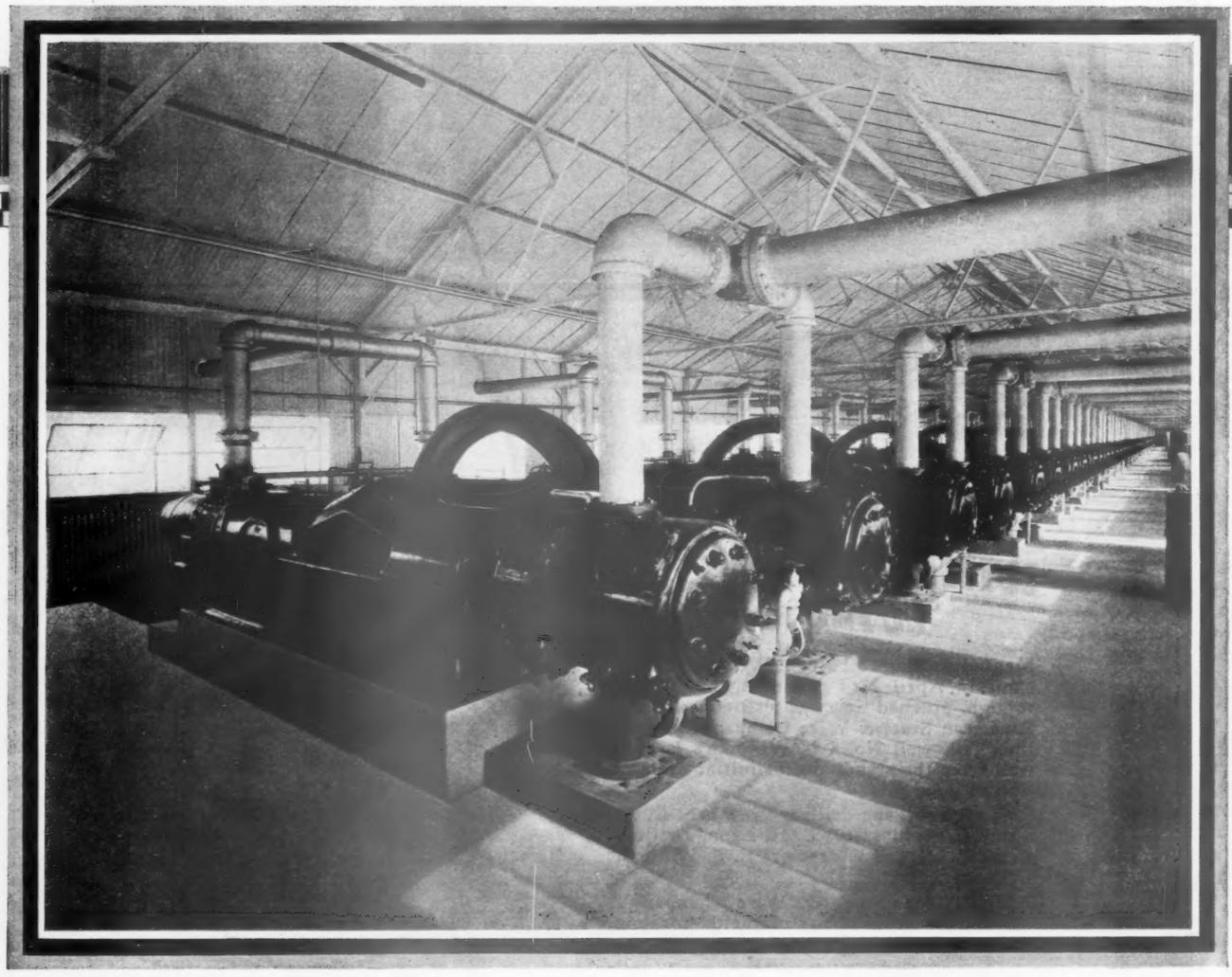
Phillips Petroleum Gasoline Plant



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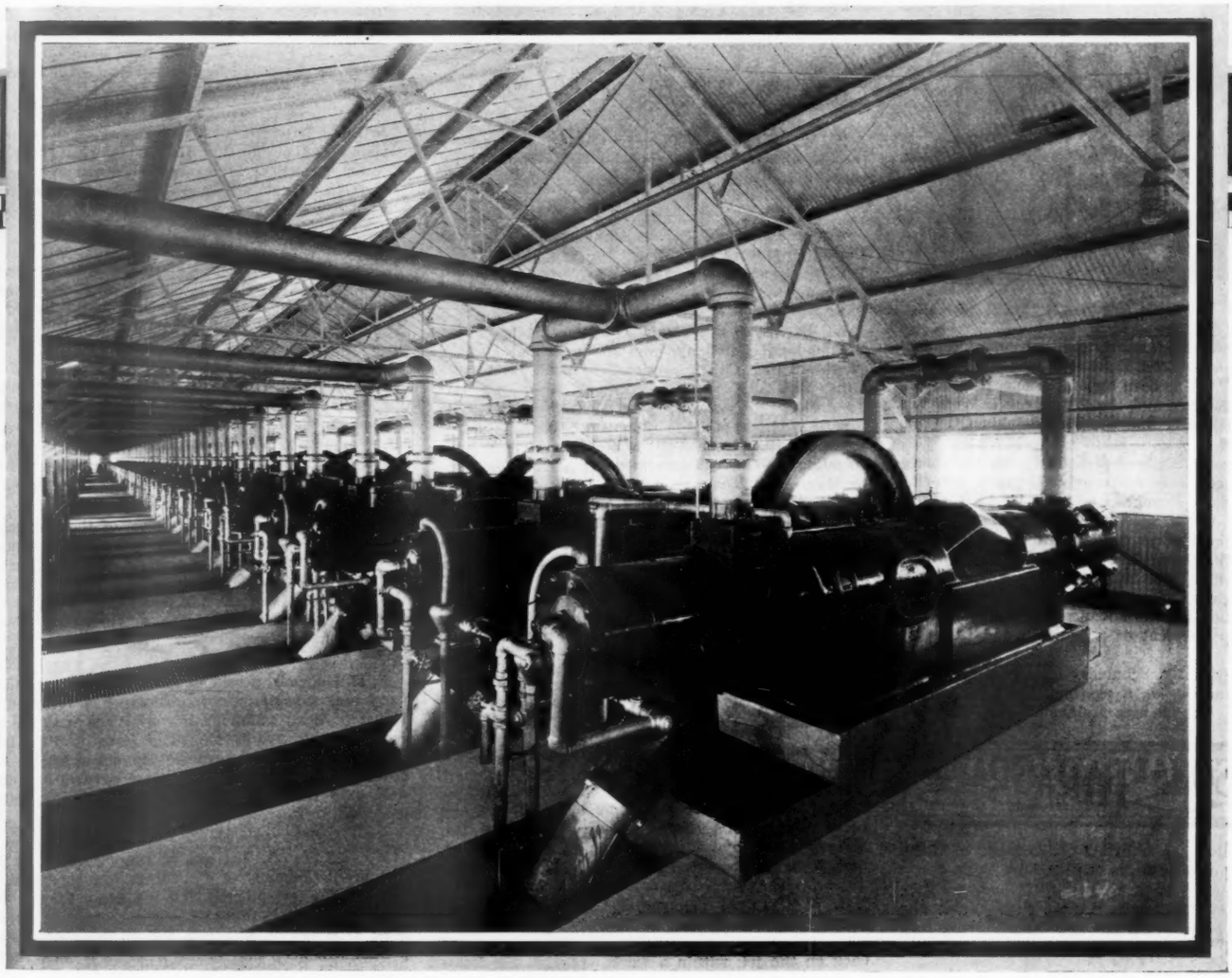
Company's Johnson at Borger, Texas



SMITH-BOOTH-USHER COMPANY
228 S. Central Ave., Los Angeles
50 Fremont St., San Francisco

MPRESSORS

MEN KNOWN IN OILDOM

M. C. Schneider

M. C. Schneider, formerly general superintendent of production for the Equitable Gas Company of Pittsburgh, Pa., has been appointed operating manager of that concern and the Pittsburgh & West Virginia Gas Company and the Philadelphia Oil Company.

Mr. Schneider has been identified with the activities of this company for nearly 30 years, entering the service as a stenographer May 11, 1900. After one year he was transferred to the central office, and began the slow steady ascent up the ladder; first as clerk, then chief clerk, and on April 1, 1914, he became assistant to the general superintendent which position he maintained until December, 1919, when he was advanced to the position of general superintendent of production and transportation.

As a side line, Mr. Schneider has on one occasion entered the movies as a pastime, through being a brother-in-law of Thomas Meighan.

PERSONAL PARAGRAPHS

J. S. Cullinan has returned to his home in Houston, Tex., from a business trip to New York.

* * *

W. Howard Williams, C.B.E., has joined the Boards of Lobitos Oilfields and Anglo-Ecuadorian Oilfields.

* * *

J. H. Hesterly, of the Louisiana Oil & Refining Company, Shreveport, La., made a recent business trip to Houston, Tex.

* * *

T. R. Gobel, of the gas contract department of Skelly Oil Company, Tulsa, Okla., was a recent Panhandle Texas visitor.

* * *

Harry Steinberger, vice president of the Clovis Gas & Oil Company, Clovis, Tex., was a recent Amarillo, Tex., visitor.

* * *

C. E. Dowd has been transferred from Denver, Colo., to Houston, Tex., as district manager for the Frick-Reid Supply Company.

* * *

D. P. Hamilton, vice president of Root Refineries, Inc., of Shreveport, La., has returned from a business trip to Cincinnati, Ohio.

* * *

Ralph Kerr, of Houston, Tex., in charge of the oil field business of the Texas Rubber Specialty Company, is making a special trip through the Mid-Continent in the interest of his company.

J. B. Atkins, general manager of the Shreveport Producing & Refining Corporation, spent several days in Houston, Tex., the past week.

* * *

Grant Blanchard, head of the Marland Oil Company staff in southeast New Mexico, has opened offices in the city hall at Carlsbad.

* * *

Dean Gill, who has charge of the Manhattan Oil Company's affairs in North Texas, has moved his office from Fort Worth to Abilene, Tex.

* * *

T. J. Donoghue, first vice president of The Texas Company at Houston, Tex., was a recent visitor at the offices of the company in Tulsa, Okla.

* * *

Robert W. Ducker, petroleum engineer, formerly of Shreveport, La., but now connected with New York interests, is visiting the Mid-Continent Field.

* * *

L. C. Harbert, sales manager of the J. P. Ratigan Company of Los Angeles, Calif., was a recent business visitor in Houston, Tex., and the Gulf Coast fields.

* * *

M. W. Mitchell, a pioneer Coastal rotary contractor, and Lewis Pierce of the Texas Iron Works, both of Houston, Tex., are in New York City on business.

* * *

Walter P. Camp, Jr., assistant treasurer of the United Producers Pipe Line Company, Fort Worth, Tex., is spending his vacation in Norfolk, Va., his old home town.

* * *

W. E. (Steve) Dunlap, chief geologist of the Richfield Oil Company, was the principal speaker at the Taft., Calif., section of the Chamber of Mines and Oil.

* * *

Seth Wagnon, of El Dorado, Ark., south Arkansas scout for the Humble Oil & Refining Company, is spending a two week's vacation at his former home in May, West Texas.

* * *

C. E. Yager, assistant to David Donoghue in the land department of the Texas Pacific Coal & Oil Company at Fort Worth, Tex., is the proud father of a 7-pound baby girl.

* * *

H. B. Smith, vice president of Sinclair Oil & Gas Company at Tulsa, Okla., in charge of the land department, spent a few days in the Fort Worth, Tex., office recently.

* * *

Axtell J. Byles, president of the Tide Water Associated Oil Company, has returned from Europe where he was accompanied by Mrs. Byles, Axtell Byles, Jr., and J. Byles.

* * *

W. H. Gaither, district manager in Texas and Louisiana, for the National Transit Pump & Machinery Company, with Houston, Tex., headquarters, is in Shreveport, La.

* * *

R. W. Garman, manager of the Union Oil Company's gas department, is recovering from a recent appendicitis operation and will probably be back on the job within a week.

* * *

W. C. McLeod, of Tulsa, Okla., district manager of the National Transit Pump & Machine Company of Oil City, Pa., has returned to his headquarters after a week's business trip to Kansas City, Mo.

* * *

G. W. Collingwood, head of Philmack Oil Company's Fort Worth, Tex., office, and C. O. (Ted) Collins, have returned from a week's tour of West Texas, with particular attention to Pecos County.

* * *

B. H. Hull, of Houston, Tex., president of the Texas Pipe Line Company, was a business visitor at offices of the company in Shreveport, La. He made the trip by airplane, flying first to Beaumont, Tex., then to Shreveport, and thence to Dallas, Tex., and home.

* * *

George D. Kipp, formerly head of the Superior Specialty Company of Lomita, Calif., and N. J. Hanna, formerly connected with the Rotary Disc Bit Company of Los Angeles, are now members of the sales organization of the California Oil Tool Company, of Torrance, Calif.

A. A. Murrell and John Case, of the New York offices of the Vacuum Oil Company, are inspecting the West Texas fields, accompanied by W. B. Sutton, manager of the land department in the Southwest division.

* * *

Jack Doyle, of Shreveport, La., head of the land department of the Humble Oil & Refining Company in the Arkansas and North Louisiana district, was in St. Louis, Mo., a week in connection with some business deals.

* * *

Allison & Fitzwilliams, independent operators of Wichita, Kans., have moved to Texas and are drilling a well for the Western Exploration Company in Haskell County. They will open offices soon either in Fort Worth or Abilene, Tex.

* * *

Russell O. (Arch) Lowrance, assistant to the head of Sinclair Oil & Gas Company's land department in Fort Worth, Tex., has been under the weather as a result of an operation which removed his tonsils.

* * *

Arthur F. Corwin has been elected a director of Standard Oil Company of New York to fill the vacancy created by increasing the board to 14 members from 13. F. S. Fales, formerly secretary, was elected a vice president and A. H. Wilkinson was elected secretary.

* * *

N. C. McGowen, president of the Palmer Corporation of Shreveport, La., and president of the Natural Gas Association of America, has returned to his office after a week's business trip to Chicago and other eastern cities.

* * *

H. D. McCracken, head of the United Producers Pipe Line Company (Transcontinental), has returned to Fort Worth, Tex., from several weeks spent among the balmy breezes of the Pacific Coast. Much of his time was devoted to the Goleta area in California where his company has holdings.

* * *

H. S. Cole and H. S. Parmelee, of the California Petroleum Company of Los Angeles, were visitors in Tulsa, Okla., recently, and made the journey from the Coast to attend the annual convention of the American Association of Natural Gasoline Manufacturers. They remained to make a tour of the Mid-Continent Field.

* * *

E. H. Buckner, president of the Houston Oil Company and subsidiary corporations, has returned to Houston, Tex., following a conference with his directors in St. Louis, Mo. The Houston Pipe Line Company, one of the subsidiary corporations, has developed into one of the largest natural gas companies in the United States under Mr. Buckner's direction.

* * *

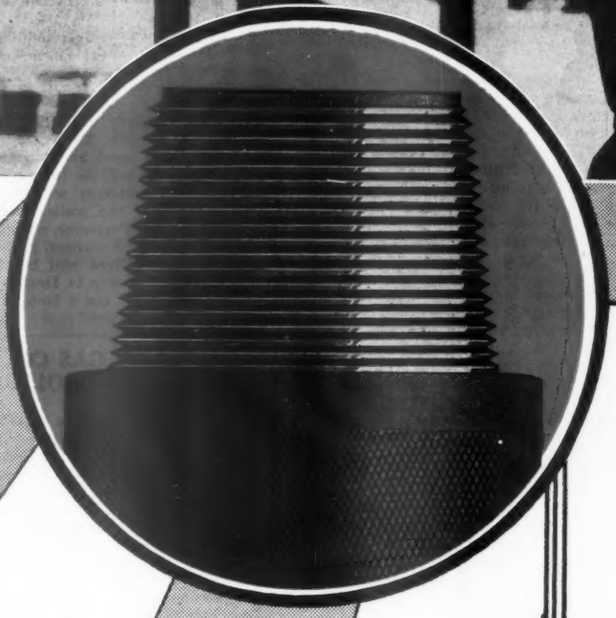
W. L. Stewart, Jr., son of the president of the Union Oil Company of California, was operated on recently for appendicitis, but his many friends will be glad to learn that Mr. Stewart is well on the road to recovery, although the bursting of his appendix will keep him in the hospital a little longer than usual.

* * *

Among Equitable Gas Company changes recently announced at Pittsburgh, Pa., D. P. Hartson was appointed superintendent of production and transportation; E. E. Keeler, superintendent distribution operation; Frank Batt, supervisor of gas measurement and leakage; G. W. Brown, superintendent Division "E"; and N. S. Moore, superintendent of utilization.

* * *

F. Julius Fohs, vice president of Humphreys Corporation, sailing for a European vacation, stated: "Humphreys Corporation, founded by the late Col. A. E. Humphreys and operating in the Mid-Continent oil fields, will continue along the same lines with his eldest son, Ira B. Humphreys, as president, and Frank Cox, F. Julius Fohs, J. A. Elkins and A. E. Humphreys, Jr., as vice presidents. An ample geological staff will be maintained and the company's properties added to from time to time. The company has a fair amount of settled production and more than 40,000 acres of geologically selected oil leases."



No. 3 of a series of informative advertisements on the manufacture of the Hughes Tool Joint. We believe it costs more to manufacture a Hughes Joint than any other joint on the market.

AFTER BEING THOROUGHLY ANNEALED

Every

HUGHES TOOL JOINT FORGING

is machined to finished dimensions—great care being exercised to preserve alignment and concentricity of threads with respect to the body of the joint.

"Sold by supply stores—Everywhere"

HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.

Main Office and Plant
HOUSTON
TEXAS

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New York City

Natural Gas Developments

CARBON BLACK IMPORTANT INDUSTRY WITH RUBBER BUSINESS BIG BUYER

By G. R. Hopkins
Petroleum Economist, Bureau of Mines

Carbon black is a fluffy, velvety black pigment, made by burning natural gas with insufficient air. Although it has been in use for about 50 years it would still be comparatively unknown to all except ink manufacturers had it not been for the discovery of its use in rubber in 1915. The carbon black industry owes its early existence to the printing press, but its recent growth and present economic status are due to the rubber industry which, in turn, is dependent on the automobile.

Figures for the production, stocks, losses at plants, and indicated deliveries of carbon black for the period 1919-1925 are as follows, the figures being expressed in pounds:

Year	Production	Stocks End of Period	Losses	Indicated Deliveries
1919	52,057,000	*2,000,000	†	52,057,000
1920	51,322,000	*2,000,000	†	51,322,000
1921	59,766,000	*2,000,000	†	59,766,000
1922	67,795,000	2,435,000	†	67,360,000
1923	138,263,000	38,321,000	166,000	102,211,000
1924	186,872,000	95,671,000	661,000	128,861,000
1925	177,417,000	96,023,000	1,434,000	175,631,000

*Estimated. †Not available.

These data show that production received its greatest impetus in 1923, when the output was more than doubled. The year 1923 is remembered as a year of production records in the petroleum and allied industries which was the basis for the present far-flung use of the term "overproduction." Carbon black production in 1925 was less than in 1924, a reflection of depressed prices which, in turn, resulted mainly from the excess stocks of 1924. No official figures are yet available for the year 1926.[1]

Carbon Black Stocks

Prior to 1922 stocks of carbon black at the plants were small and of relatively little importance. For several years after 1915 the active demand for use in rubber exceeded the productive capacity of the industry and stocks necessarily were small. With the great increase in production in 1923 and 1924 stocks rose rapidly but showed little change in 1925, when production decreased. Producers' stocks as of December 31 for the period 1919-1925 are given in Figure 1. Stocks of carbon black are also held by brokers at their main distributing points. These stocks, however, are not considered in this report.

Indicated deliveries are computed by the formula "production plus or minus the change in stocks minus losses at the plants." The figure for deliveries from 1919-1925 are given in Figure 1, those for 1919 and 1920 having been assumed to be equal to production. Deliveries have shown a fairly steady increase in recent years; the greatest percentage gain occurred in 1923 when the related economic factors — overproduction, surplus stocks and low price—caused carbon black to replaced other pigments in the rubber and other trades.

Carbon black is now produced from about 60 plants in eight states. The output is usually sold or handled through brokers, but large quantities are also distributed directly to domestic or foreign consumers, or are sold to other producers.

The chief uses of carbon black, in order of their importance, are as a filler in rubber and as a pigment in ink and in paints. It is also used in a number of miscellaneous products, such as stove polish, crayons, cement, paper and composition goods.

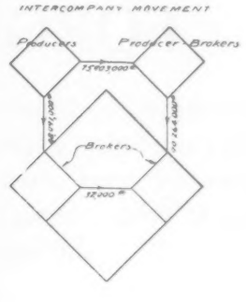
The distribution of carbon black deliveries for 1918, 1920 and 1925 are given below:

	1918*	1920*	1925†
Rubber	20,000,000	20,000,000	86,329,000
Export	15,000,000	8,000,000	43,183,000
Ink	11,000,000	10,000,000	22,389,000
Paint	‡	‡	11,757,000
Stove polish	4,500,000	4,000,000	‡
Miscellan'ous	1,000,000	1,500,000	11,973,000
Total	51,500,000	43,500,000	175,631,000

*From trade journal estimates.
†Based on written reports from the industry.
‡Included in miscellaneous.

The 1925 figures for distribution (see

(Continued on Page 93)



MOVEMENT TO TRADE
Equals total indicated deliveries of 175631000

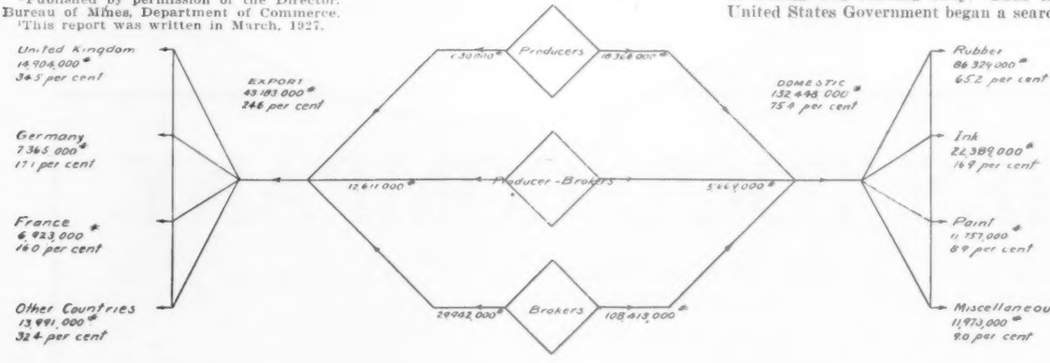


Figure 3

Diagrammatic Sketch of Carbon Black Distribution.

*Published by permission of the Director, Bureau of Mines, Department of Commerce.
[1]This report was written in March, 1927.

"LAUGHING GAS" TOWN GETS HELIUM PLANT

Twenty-four years ago the town of Dexter, Cowley County, Kansas, almost admitted its chief gas supply was laughing gas. That was the name, says the Kansas City Star, a chuckling outside world had for its product that wouldn't burn.

Now that work is to start on a plant for extraction of helium from this same gas, Dexter doesn't mind at all. The town has a laugh coming.

Back in 1903 Dexter was excited over oil possibilities. Two men had leased a part of the land then belonging to William Greenwell, a short distance north of Dexter, and drilled for oil. At a depth of 480 feet they struck a heavy flow of gas. The pressure was so great the roar could be heard several miles.

Dexter was overjoyed. It had natural gas. Now the town could be piped and the old kerosene lamps discarded. A celebration was planned. It was to be a big community affair. Speakers were engaged. Just at the start of the celebration the gas was to be uncorked and lighted. There was to be a flame of gas fire shooting out of a big pipe all day and far into the night.

The day arrived. The speakers were there. The master of ceremonies made an elaborate address and applied his torch to the escaping gas. The torch was blown out. He tried again. The same thing happened.

Visitors smiled and the master of ceremonies wiped the perspiration from his face. He tried again and again to light the gas. The stuff just wouldn't burn.

Dexter was saddened and Dexter's guests went home snickering. There was much fun at Dexter's expense.

Dexter still believed in the wonders of its mysterious product.

About two years after the farcical celebration, J. W. Smith, now of Arkansas City, arrived in Dexter. With W. E. Merydith, Smith brought in a gasser on the townsite. They discovered the gas would burn if kindled with a steady fire. They kept their gas well burning weeks to overcome adverse publicity. They piped the gas for heating and did a flourishing business but no way could be found to make it a success for lighting.

For a long time after it was found the gas was not highly inflammable the reason was not known. Then samples were sent to Prof. H. C. Cady of the University of Kansas, and he found the gas to contain helium—an element whose value was little understood.

The helium was found to be a highly valuable balloon gas because it was both light and noninflammable. But Dexter wasn't a town for aviators. It couldn't be consistently excited.

It was not until the World War, when dirigibles came into wide use, the value of helium was realized fully. Then the United States Government began a search for helium. A plant was built at Fort Worth, Tex. Government scouts came to Dexter and investigated the helium possibilities. It was rumored a government plant for the isolation of the rare gas was about to be built. Then came the close of the war, and whatever plans the Government may have had were shelved.

In a later oil development most of the wells were found to contain helium gas.

Recently it was announced the Government was again interested in the Dexter Field. The Kentucky Oxygen & Hydrogen Co., with a contract to supply helium, was preparing to build a plant to extract the helium gas. The fact helium can be extracted from natural gas more cheaply than formerly was a factor in the negotiations.

It was definitely decided to establish the plant at Dexter. Two units are to be built now, and more are expected later. The investment will be in excess of $1,000,000. The company will buy its gas from owners of the wells, largely controlled by S. W. Forrester, oil operator of Wichita. The land owners, however, will get a royalty. There will be more persons and more money in Dexter—a town which has boasted not a boom for the 57 years of its existence.

SOUTHWEST GAS CO. IS TEXAS CONSOLIDATION

HOUSTON, Tex., June 4.—The Southwest Gas Co. has been granted a state charter, capitalized at $1,000,000 preferred stock and 200,000 shares of common stock of no par value. The officers are: J. W. Colvin, Houston, president; L. C. Doney, Jr., vice president; directors, O. R. Seagraves, C. O. Moore, Paul Kayser, R. H. Baker and George E. Colvin, all of Houston.

The company is a consolidation of the MacThwaite Oil & Gas Co., Pontotoc Pipe Line Co., De Leon Gas Co., Tri-Cities Gas Co. and other companies supplying natural gas to cities and towns in central Texas and in Oklahoma.

Franchises have been secured in Cuero, Yoakum, Shiner, Gonzales, Luling and Lockhart, Stephensville, Dublin, De Leon in Texas and Ada and Seminole in Oklahoma. The new company will serve a population of 200,000. Approximately 22,000,000 feet of gas is now being delivered or under contract to deliver.

It is proposed to issue $3,000,000 first mortgage gold, sinking fund bonds to lay lines to the six towns first named. Gas for these towns will be secured in the Jackson County Field. The general offices of the Southwest Gas Co. will be located in Houston.

NATURAL GAS MERGER APPROVED BY A. G. A.

NEW YORK, June 4.—The executive board of the American Gas Association at Atlantic City yesterday unanimously approved the merger with the Natural Gas Association of America. It will be necessary now to submit appropriate amendments to the membership of the American Gas Association.

If these are approved, President N. C. McGowen of the Natural Gas Association will become chairman of the managing committee of the natural gas department of the American Gas Association.

CADDO PARISH SALE

SHREVEPORT, La., June 4.—The sale of the northwest quarter of the southwest quarter of Section 14-20-15, Pine Island Field of Caddo Parish, by A. G. Curtis to J. P. Evans, was announced the past week. The consideration was $75,000. The land, which is under lease by The Texas Company, has been transferred to W. P. Baucum, trustee.

Crowding Crooked Tubing Out of the Picture!

Oil field scenes which showed piles of crooked tubing used to be common. Nowadays, ruined tubing is being crowded out of the picture because alert operators have learned to specify a GUIBERSON Tubing Catcher for every well.

Illustrated above, at the GUIBERSON Plant, are enough GUIBERSON Catchers to insure the safety of millions of dollars worth of tubing. These catchers are fully patented.

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

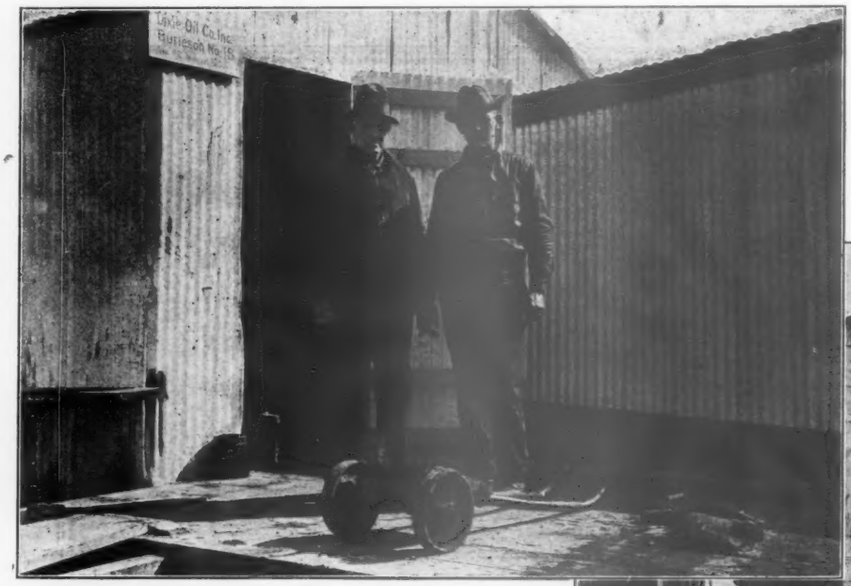
CALIFORNIA BRANCH: 1506 Santa Fe Ave., Los Angeles

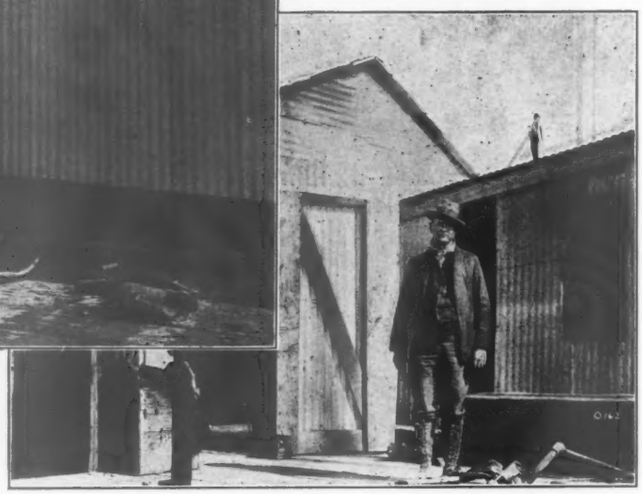
402 W. First St. TULSA | 321 S. Osage St., PONCA CITY, OKLA. | 506 Trust Building NEWARK, O

GUIBERSON

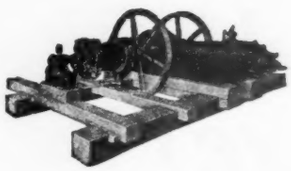
BETTER BE SAFE THAN SORRY

"When we buy more engines—



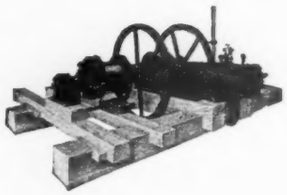


R. D. King, Driller, and J. D. Coombs, Tool Dresser of Gibson Brothers' crew around the Dixie Oil Company's lease at McCamey, Texas. At the right we see Mr. H. H. Gibson, himself.



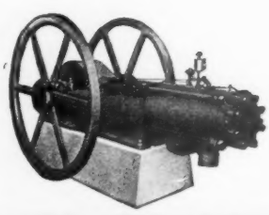
FRANKLIN OIL DRILLING ENGINE

The Franklin is a single cylinder, three-port, two cycle VALVELESS engine. This is Type AO for Mid-Continent or Western Cable Tool Drilling. Price $3700.00. For Eastern Service $2600.00 and $3350.00. Prices F.O.B. Factory. Complete with self-oiling, reversible drilling clutch, circulating pump and fuel tank.



FRANKLIN GAS PUMPING ENGINE

Where gas is available this engine—just as efficient and economical—has an added advantage—*Interchangeability*. The prices for Western Service are $1725.00 and $2150.00. For Eastern Service $1450.00 and $1725.00. Prices F.O.B. Factory. These engines can show you a power, speed and flexibility almost unbelievable.



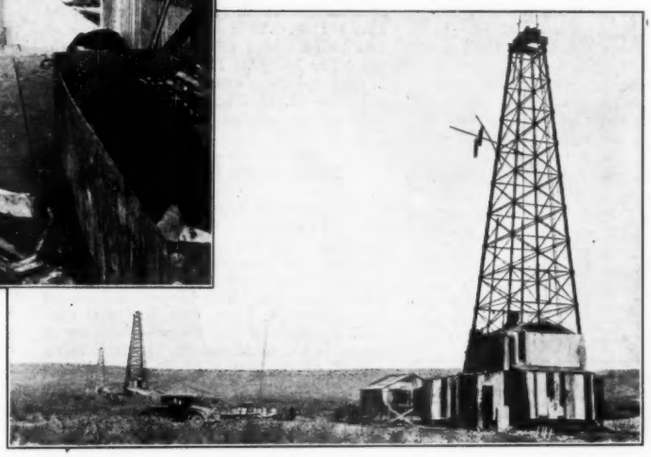
FRANKLIN GAS DRILLING ENGINE

Similar in construction to the drilling engine and interchangeable on the same block with it. You can either leave your Drilling Engine on the job for pumping or replace it with one of these lesser horse power Franklins without changing a single bolt.

FRANKLIN VALVE

they'll be Franklin Valveless!"

No coal or water to haul, no fires to tend, no boilers to leak on this Franklin Valveless installation. The four rigs at the right are all equipped with Franklins.



The Gibson Brothers know a good power plant when they see it. They've got four Franklin Valveless Drilling Engines now and lots of experience—a combination that *means something* when you're in the contracting business.

"The most satisfactory power-plants we have ever worked with" is what the Gibsons think of Franklin Valveless; and that seems to be the consensus of opinion of all contractors who have standardized on these fast, dependable drillers and pumpers. While Franklin Valveless Engines are noted for economy of fuel, water and oil, don't overlook the advantages of easy transportation (one truck does it) and the fact that repairs are practically unknown.

Switch over to Franklins on your next well—you'll find it's the best move you ever made.

FRANKLIN VALVELESS ENGINE COMPANY
Franklin, Penna.

Distributed by
Oil Well Supply Company
Through Its 100 Branches

LESS ENGINES

EQUIPMENT AND SUPPLIES

NEW METAL PACKING PLACED ON MARKET

The Garlock Packing Co., Palmyra, N. Y. has just placed on the market a new type of metal packing which is known by the trade name of Garlock oil return wall plate metal packing for gas and air compressors. This packing is designed to replace the oil wiper packing that is now used in the wall plate stuffing boxes of most of the gas and air compressors that are now on the market. It is a known fact that compressors are large consumers of lubricating oil, and this fault is not only an economic waste, but it is detrimental to the mechanism of the compressor as well as to the many appliances which are operated on the compressed air or gas as delivered.

Garlock Oil Return Packing is one of the first devices on the market to eliminate this condition. The manufacturers state that it will wipe every drop of oil from the compressor piston rod and return it freely to the crankcase. In addition to the oil wiper feature this packing is so designed that it will take care of the vacuum and low pressure on certain types of power cylinders.

BRIDGEPORT COMPANY LUCEY DISTRIBUTOR

The Bridgeport Machine Co. of Wichita, Kans., has been appointed distributor for the Lucey Products Corp., and will stock its branch stores with a complete line of Lucey equipment. The addition of the Lucey line will give the Bridgeport company a complete list of both rotary and cable tools. It is now distributing in addition to Bridgeport and Lucey products, Williamsport wire lines, Spang weldless jars, and Watson-Stillman hydraulic jacks. The current issue of the Bridgeport Driller, house organ for the Bridgeport Machine Co., gives an extensive description of the many Lucey products which are now handled, and contains numerous illustrations of them.

OIL FIELD BRANCH INTO NEW QUARTERS

United States Rubber Co. announces the removal of the Oklahoma oil field branch at Tulsa, Okla., from the location at 307 East Third Street to the new quarters prepared for same at 113 West First Street. This move was necessitated by the additional floor space required due to increased business, and the decision that the Tulsa oil fields and the State of Oklahoma now warrant the placing of the first factory branch stock of rubber covered insulated wire in that territory.

This branch of the United States Rubber Co. has been under the continuous management of J. W. Ballew since it was opened, and much of its success can be attributed to the many friends he has among the oil fraternity.

HERCULES APPOINTS SALES REPRESENTATIVES

The Hercules Motors Corp. of Canton, Ohio, announces the appointment of two resident representatives in the oil field.

R. J. Scott will make his headquarters in Tulsa, Okla., from which point he will co-operate with the great number of Hercules users in the Mid-Continent Field.

John Krisl will have his headquarters in Houston, Tex., and will represent the company in the Gulf Coast district. As both Mr. Scott and Mr. Krisl are men of long experience in the oil fields they are especially equipped to interpret the power needs of the petroleum industry.

UTAH CHAIN BELT OFFICE

The Galigher Co., 228 South West Temple Street, Salt Lake City, Utah, is now a branch office of the Chain Belt Co., Milwaukee, Wis. This office will handle the sale of Rex chains, transmission machinery, Rex elevators and conveyors, and Rex traveling water screens in that territory. In addition, they will handle Stearns belt conveyors, which are manufactured by the Stearns Conveyor Co., at Cleveland, recently purchased by Chain Belt. This new office is one of two to be added within the last month, the other being at Birmingham, Ala. It is expected these new connections will enable the Chain Belt Co. to increase its engineering service to buyers of their line.

NEW TYPE GATE VALVE

An improved type of gate valve, designed to guarantee positive closure at all times through the elimination of the grit problem, has been on display at offices of the Mid-Continent Oil & Gas Co. in Shreveport, La. The valve was invented by Charles R. Law, president and general manager of the DeSoto Foundry & Machine Co. of Mansfield, La. It is being moved to the Standard Pipe Line Co.'s Moore station and will be placed in the line for a test.

PORTABILITY ITS FEATURE

In a description of the "Mayhall Gauge" appearing on page 68 of the June 2 issue of The Oil and Gas Journal, due to a typographical error, the weight given for the device was incorrect. The weight of the gauge is between 12 and 13 pounds. The device which was recently patented is used for sampling and testing oils in tank cars. One of the main features of the gauge is its light weight which makes it portable for use around refineries and bulk stations.

MOVING TO TULSA

Bill Bailey, the "Babbitt Man" of the Eagle-Picher Lead Co., thinks that a man's home ought to be where he spends most of his time. For that reason he and Mrs. Bailey are going to take up the welcome mat from the front door of their home in Olathe, Kans., and set it down in front of their new home in Tulsa.

DISTRICT OFFICE IN DALLAS

The North American Car Corp. of Chicago, of which Henry H. Brigham is president, builders and lessors of tank cars, refrigerator cars and poultry cars, has opened a district office in the Republic Bank building at Dallas, Tex., because of its expanding business. This will enable its many southwestern customers to keep in closer touch with the company's home office.

R. W. Patterson, recently in charge of the company's terminals at New Orleans, has been placed in charge of this office as district manager. The fact that he has been with the company for several years and is familiar with all branches of its activities, puts him in position to give information and intelligent attention to all customers and prospective customers.

ANDREWS-BRADSHAW PERSONNEL CHANGES

Andrews-Bradshaw Co., Pittsburgh, Pa., manufacturers of the Tracyfier, announce the addition to their personnel of R. N. Robertson as chief engineer and A. L. Menzin as director of research.

Mr. Robertson comes from the American Smelting & Refining Co., having been with them for 20 years. His work with that company comprised all branches of power plant engineering, and special technical problems concerning the flow of gases, smoke determinations, and as supervisor in charge of all power and mechanical work at all plants in the western division of the American Smelting & Refining Co. Mr. Robertson is a Cornell man, class of 1905.

Mr. Menzin has had extensive designing, construction and research experience on steam power plant equipment, having been for some years chief engineer of the Tracy Engineering Co. and, prior to that, consulting engineer with the Edge Moor Iron Co., manufacturers of Edge Moor boilers. Mr. Menzin is a graduate of the University of California, class of 1907.

CHICAGO BRANCH MOVED

The Chicago branch and warehouse of the Kennedy Valve Manufacturing Co. has been removed to 1335-1337 South Clinton Street in the new Soo Terminal.

NEW DISPLAY ROOMS FOR ENGINEERING CORPORATION

With the recent opening of its new display rooms at 1325 Maple Avenue, Los Angeles, the Brooks Engineering Corporation has devised facilities for demonstrating its various types of tank equipment. On the display floors are shown complete hook-ups of various control equipment.

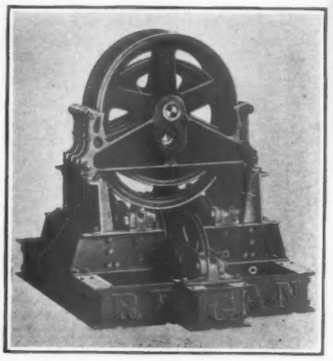
Stephen H. Brooks is president of the concern and Frank Long is sales manager. The company maintains an office in Tulsa, Okla., in the Mayo Building.

Mr. Brooks reports the shipment of a number of orders to foreign oil fields and states that quite a bit of interest has been aroused recently by the improvement of methods in recovering vapors from tanks.

NOVEL CROWN BLOCK OF DIFFERENT DESIGN

A new crown block of radically different design has just been introduced by Regan Forge & Engineering Co. of San Pedro, Calif. This new block is said to embody a score of distinctive features.

One of the features is the method of carrying the fastest moving lines upon extra large sheaves which reduces the



friction and bending action of the line and also permits of higher speed. The larger sheaves are placed at right angles to the smaller sheaves and are set above the smaller sheaves, making a compact installation for the entire block, requiring no more room than is needed for a crown block of ordinary dimensions.

Construction of the block permits changing from a 6 to an 8, 10 or 12-inch string-up. By placing the slow line in dead center adjacent to the finger board, protection is offered to the derrickman who may by accident slip and grab the line. The dead line and slow line are closest to the finger board while the fastest grooving lines are on the opposite side. As the load is carried from the exact center of the crown block and as the cross beams distribute the load evenly, the derrick legs carry an equal load, reducing the hazard of pulling the derrick to one side.

TRADE LITERATURE RECEIVED

From the Joseph Dixon Crucible Co., Jersey City, N. J., a booklet entitled "A Tale of Yesterday, Today, and Tomorrow," by Floyd W. Parsons. This was written on the occasion of the one hundredth anniversary of the Dixon company and is a recital of business victories and tribulations and sets forth the business philosophy that has brought the concern through the century of commerce.

From the Linde Air Products Co., New York, the current number of "Oxy-Acetylene Tips" for the Linde oxwelder.

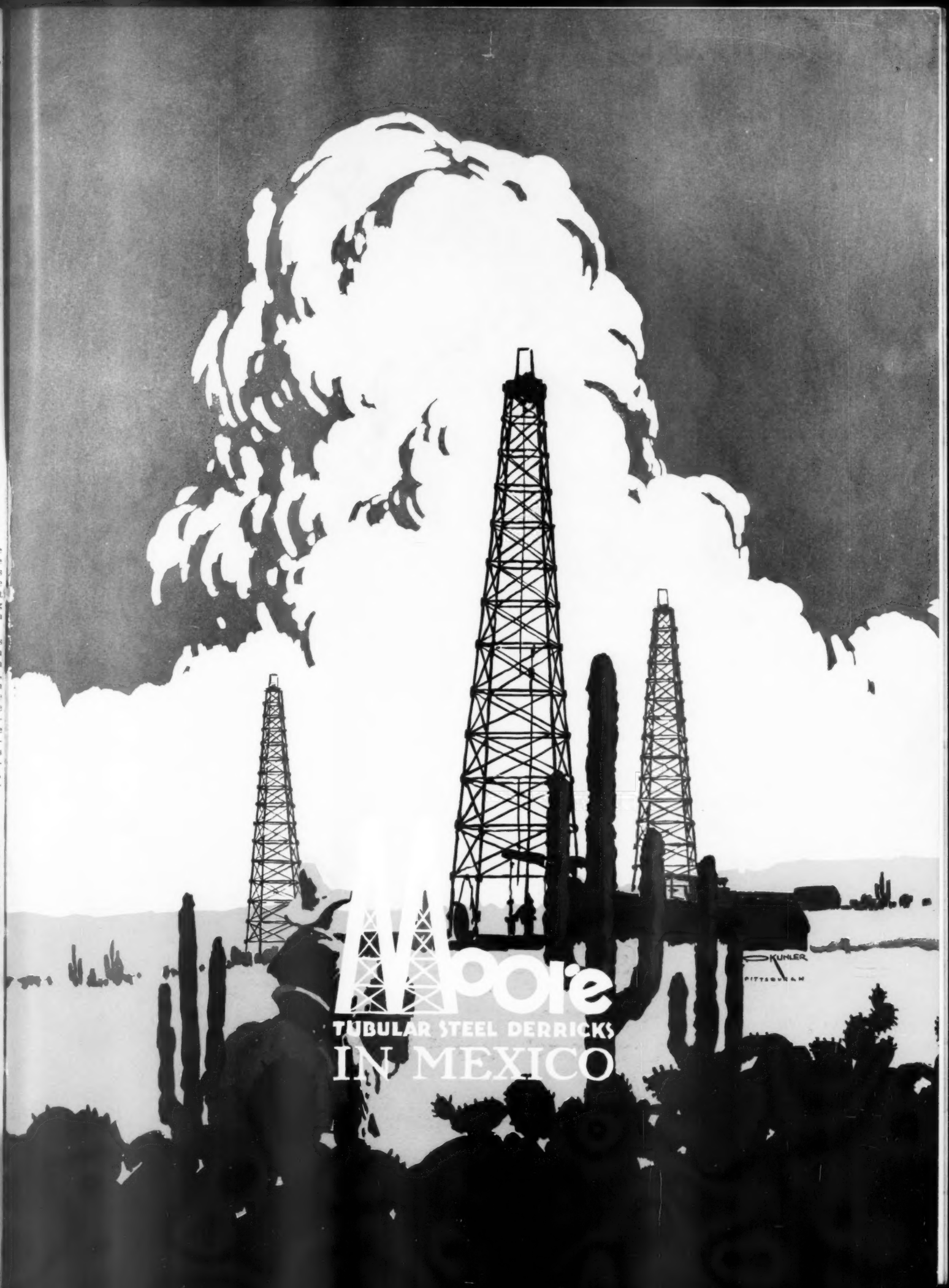
From Erie Ball Engine Co., Pittsburgh, Pa., bulletin E 80-A, describing Erie Ball Corliss engines.

From the International Nickel Co., Inc., New York, bulletin No. 10, entitled "Chrome nickel steel in special track work." A scientific and practical discussion of the characteristics of this new steel.

From American Blower Co., Detroit, Mich., bulletin No. 1033 entitled "Sirocco blowers for oil burners."

From the Burt Manufacturing Co., Akron, Ohio, a folder describing the Burt direct connected fan ventilator.

From the Parkersburg Rig & Reel Co., Parkersburg, W. Va., the current issue of "The Rig and Reel."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Casper, Wyo. Shreveport, La. El Dorado, Kan. El Dorado, Ark.

Bureau of Mines Statistics for Month of April 1927

HIGH POINTS IN APRIL REPORT

Crude Oil

Crude oil production for April totaled 72,172,000 bbls. The daily average of 2,406,000 bbls. was 23,000 bbls., or 1 per cent less than the average for March.

Crude imports for the month totaled 4,063,000 bbls., making a total crude supply in United States for the month of 76,235,000 bbls. Of this total supply, 7,960,000 bbls. were added to crude storage, making a total storage of 415,524,000 bbls. on April 30. This shows that the crude supply (domestic production plus imports) exceeded total demand (domestic consumption plus exports) 265,333 bbls. daily.

The crude stocks on April 30 were the greatest since March 31, 1926, when they totaled 420,216,000 bbls. The crude stocks on April 30 of last year were 410,719,000 bbls.

The total crude demand in April was 68,275,000 bbls., of which 1,171,000 bbls. were exports. The average daily consumption, including the exports, was 2,275,660 bbls., which was less than the 2,414,770-bbl. average for March.

Total liquid stocks (crude oil plus refined products) on April 30 were 551,624,000 bbls., the highest in the history of the petroleum industry. The stocks of refined products totaled 136,100,000 bbls., which was practically the same as the previous month.

Refined Products

Although the daily average crude runs to stills in April was greater than in March, the daily gasoline production was less due to a curtailment of cracking operations. Cracking processes in April accounted for 29 per cent of the total gasoline production, as against 31 per cent in March.

The gasoline supply in April was 26,954,000 bbls., of which 377,000 bbls. were imported. The total demand was 26,985,000 bbls., of which 3,614,000 bbls. were exported. This was the largest exports of any month this year, although less than the 4,256,000 bbls. exported in April of last year.

Stocks of gasoline on April 30 totaled 52,379,000 bbls., or practically the same as on March 31.

There were no important developments in other products. Kerosene production, despite the increased crude runs to stills, was 200,000 bbls. less than in March. Kerosene exports for the month increased approximately 500,000 bbls., with practically the same decrease in domestic shipments. Stocks at the end of April showed a 28,000-bbl. decrease.

The output of lubricants also was less than in March, based on crude runs to stills. Stocks increased 141,000 bbls. during the month. Wax stocks continued to increase and on April 30 totaled 211,019,000 pounds.

Natural Gasoline

Natural gasoline again established a new peak with an output of 4,440,000 gallons daily. This represents an increase of 10,000 gallons daily over March and 22 per cent over March of last year.

PRODUCTION AND GRAVITY, APRIL, 1927

	March, 1927 Total	March, 1927 Daily Av.	April, 1927 Total	April, 1927 Daily Av.	April, 1926 Total	April, 1926 Daily Av.	Average Gravity
Seminole	8,750,000	282,000	9,022,000	307,000	*	*	41.0
Panhandle	3,875,000	125,000	3,660,000	122,000	300,000	10,000	36.0
Seal Beach	806,000	26,000	1,113,000	37,000	*	*	24.0

*Undiscovered or undeveloped.

STOCKS AT SEMINOLE

	Mar. 31, '27	Apr. 30, '27	Apr. 30, '26
Producers' stocks	285,000	306,000	.....
Tank farm stocks	4,200,000	4,719,000	.....
Total stocks	4,485,000	5,025,000	.....

RECORD OF WELLS, APRIL, 1927

	Completions Oil	Gas	Dry	Total Initial Prod.	Average Initial Prod.	Drilling April 30
Seminole	71	2	10	116,000	1,600	416
Panhandle	88	15	7	27,000	300	245
Seal Beach	18	...	...	43,000	2,400	135

ANALYSIS OF SUPPLY AND DEMAND OF ALL OILS
(Including wax, coke and asphalt in barrels of 42 U. S. gallons.)

	February, 1927	March, 1927	April, 1927	April, 1926
SUPPLY:				
Domestic crude production:				
Light	58,850,000	65,435,000	62,809,000	49,120,000
Heavy	9,024,000	9,869,000	9,363,000	10,872,000
Total	67,874,000	75,304,000	72,172,000	59,992,000
Daily average	2,424,000	2,429,000	2,406,000	2,000,000
Excess of daily average domestic production over domestic demand	483,000	430,000	456,000	See below
Imports:				
Crude	4,181,000	4,434,000	4,063,000	5,906,000
Refined	1,508,000	1,175,000	1,201,000	1,617,000
Total supply all oils	73,563,000	80,913,000	77,436,000	67,515,000
Daily average	2,627,000	2,610,000	2,581,000	2,251,000
Change in stocks all oils	8,355,000	8,287,000	7,838,000	*10,581,000
DEMAND:				
Total demand	65,208,000	72,626,000	69,598,000	78,096,000
Daily average	2,329,000	2,343,000	2,320,000	2,603,000
†Exports:				
Crude	1,165,000	1,199,000	1,171,000	1,308,000
Refined	9,686,000	9,450,000	9,917,000	10,688,000
Domestic demand	54,357,000	61,977,000	58,510,000	66,100,000
Daily average	1,941,000	1,999,000	1,950,000	2,203,000
Excess of daily average domestic demand over domestic production	(See above)	(See above)	(See above)	203,000
STOCKS (end of month):				
Crude:				
‡East of California	237,968,000	§244,785,000	251,459,000	226,799,000
Light	47,490,000	45,325,000	46,222,000	59,636,000
California:				
Light	29,770,000	29,568,000	29,460,000	38,634,000
xHeavy	87,640,000	87,886,000	88,383,000	85,656,000
Total crude	402,868,000	§407,564,000	415,524,000	410,719,000
Total refined	132,631,000	136,222,000	136,100,000	123,343,000
Grand total liquid stocks	535,499,000	§543,786,000	551,624,000	534,062,000
Bunker oil (included above in domestic demand	3,579,000	3,874,000	4,204,000	4,060,000

*Decreases. †Includes shipments to noncontiguous territories. ‡Exclusive of producers' stocks. §Revised. xIncludes fuel oil.

PRODUCTION OF CRUDE PETROLEUM BY FIELDS AND STATES, WITH CLASSIFICATION BY GRAVITY
(Barrels of 42 U. S. gallons)

FIELD:	March, 1927 Total	March, 1927 Daily Av.	April, 1927 Total	April, 1927 Daily Av.	Jan.-Apr., 1927	Jan.-Apr., 1926
Appalachian	2,659,000	85,800	2,532,000	84,300	9,837,000	9,056,000
Lima-Indiana	170,000	5,500	156,000	5,200	632,000	666,000
Michigan	38,000	1,200	40,000	1,300	136,000	10,000
Ill.-S. W. Ind.	751,000	24,200	588,000	19,600	2,596,000	2,756,000
Gulf Coast	4,374,000	141,100	4,116,000	137,200	17,408,000	10,654,000
Mid-Continent	44,854,000	1,446,900	42,658,000	1,421,900	168,547,000	126,093,000
Rocky Mountain	2,622,000	84,600	2,616,000	87,300	10,209,000	12,515,000
California	19,836,000	639,900	19,466,000	648,900	77,470,000	73,152,000
Total U. S.	75,304,000	2,429,200	72,172,000	2,405,700	286,825,000	234,901,000
STATE:						
Arkansas	3,834,000	123,700	3,299,000	110,000	14,761,000	20,907,000
California	19,836,000	639,900	19,466,000	648,900	77,470,000	73,152,000
Colorado	243,000	7,800	298,000	10,000	996,000	742,000
Illinois	696,000	22,400	535,000	17,800	2,375,000	2,545,000
Indiana	67,000	2,200	65,000	2,200	266,000	253,000
Southwestern	55,000	1,800	53,000	1,800	221,000	211,000
Northwestern	12,000	400	12,000	400	46,000	42,000
Kansas	3,590,000	115,800	3,478,000	115,900	14,029,000	12,760,000
Kentucky	549,000	17,700	541,000	18,000	2,101,000	2,033,000
Louisiana	1,873,000	60,400	1,688,000	56,300	7,186,000	6,934,000
Gulf Coast	279,000	9,000	239,000	8,000	1,089,000	1,284,000
Rest of State	1,594,000	51,400	1,449,000	48,300	6,097,000	5,650,000
Michigan	38,000	1,200	40,000	1,300	136,000	10,000
Montana	445,000	14,400	410,000	13,700	1,675,000	2,321,000
New Mexico	141,000	4,600	146,000	4,900	554,000	486,000
New York	194,000	6,300	184,000	6,100	717,000	613,000
Ohio	685,000	22,100	641,000	21,400	2,498,000	2,367,000
Central and eastern	527,000	17,000	497,000	16,600	1,921,000	1,744,000
Northwestern	158,000	5,100	144,000	4,800	577,000	623,000
Oklahoma	22,558,000	727,700	20,949,000	693,300	81,832,000	55,522,000
Osage County	2,204,000	71,100	2,020,000	67,300	8,484,000	7,948,000
Rest of State	20,354,000	656,600	18,929,000	631,000	73,348,000	47,574,000
Pennsylvania	842,000	27,200	804,000	26,800	3,102,000	2,762,000
Tennessee	3,000	100	4,000	100	16,000	15,000
Texas	17,373,000	560,400	17,360,000	578,600	68,147,000	40,624,000
Gulf Coast	4,095,000	132,100	3,877,000	129,200	16,319,000	9,370,000
Rest of State	13,278,000	428,300	13,483,000	449,400	51,828,000	31,254,000
West Virginia	544,000	17,500	502,000	16,700	1,980,000	1,889,000
Wyoming	1,793,000	57,800	1,761,000	58,700	6,984,000	8,966,000
Salt Creek	1,252,000	40,400	1,255,000	41,800	4,944,000	6,571,000
Rest of State	541,000	17,400	506,000	16,900	2,040,000	2,395,000
CLASSIFICATION BY GRAVITY (approx.):						
Light crude	65,435,000	2,110,800	62,809,000	2,093,600	248,418,000	192,487,000
Heavy crude	9,869,000	318,400	9,363,000	312,100	38,407,000	42,414,000

IMPORTS AND EXPORTS OF CRUDE PETROLEUM (BARRELS)
(From Bureau of Foreign and Domestic Commerce)

	March, 1927 Total	March, 1927 Daily Av.	April, 1927 Total	April, 1927 Daily Av.	Jan.-Apr., 1927	Jan.-Apr., 1926
Imports	4,434,000	143,000	4,063,000	135,400	17,192,000	21,553,000
From Mexico	1,651,000	53,300	1,947,000	64,900	7,409,000	16,147,000
From Venezuela	1,477,000	47,600	1,055,000	35,100	5,604,000	3,724,000
From Colombia	856,000	27,600	591,000	19,700	2,871,000	.....
From other countries	450,000	14,500	470,000	15,700	1,308,000	1,682,000
Exports	1,199,000	38,700	1,171,000	39,000	4,739,000	4,506,000
Domestic crude oil:						
To Canada	1,043,000	33,700	1,020,000	34,000	3,915,000	3,631,000
To other countries	156,000	5,000	151,000	5,000	824,000	874,000
Foreign crude oil	.....	.....	.....	.....	.....	1,000

Note: No shipments to territories during April.

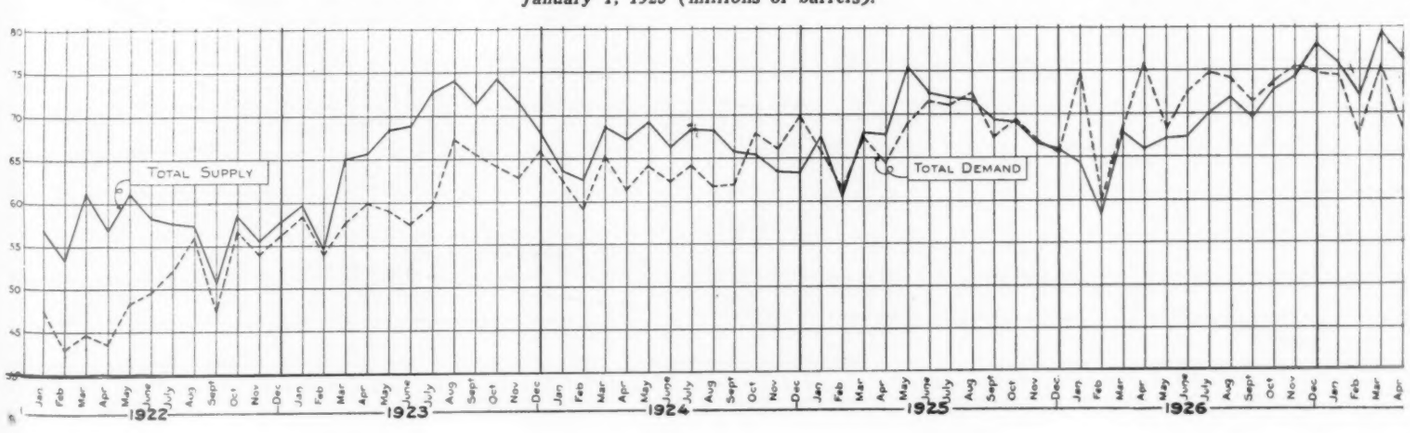
SHIPMENTS OF CALIFORNIA OIL THROUGH PANAMA CANAL TO EASTERN PORTS IN UNITED STATES (BARRELS)

	Mar., 1927	Apr., 1927	Jan. Apr. 1927	Jan. Apr. 1926*
Crude oil	572,000	462,000	2,254,000	5,004,000
Refined products	1,816,000	1,977,000	8,611,000	5,654,000
Gasoline	606,000	872,000	3,328,000	2,432,000
Tops	.....	.....	.....	328,000
Gas oil	380,000	450,000	1,558,000	1,350,000
Fuel oil	758,000	654,000	3,651,000	1,338,000
Lubricants	72,000	1,000	74,000	206,000

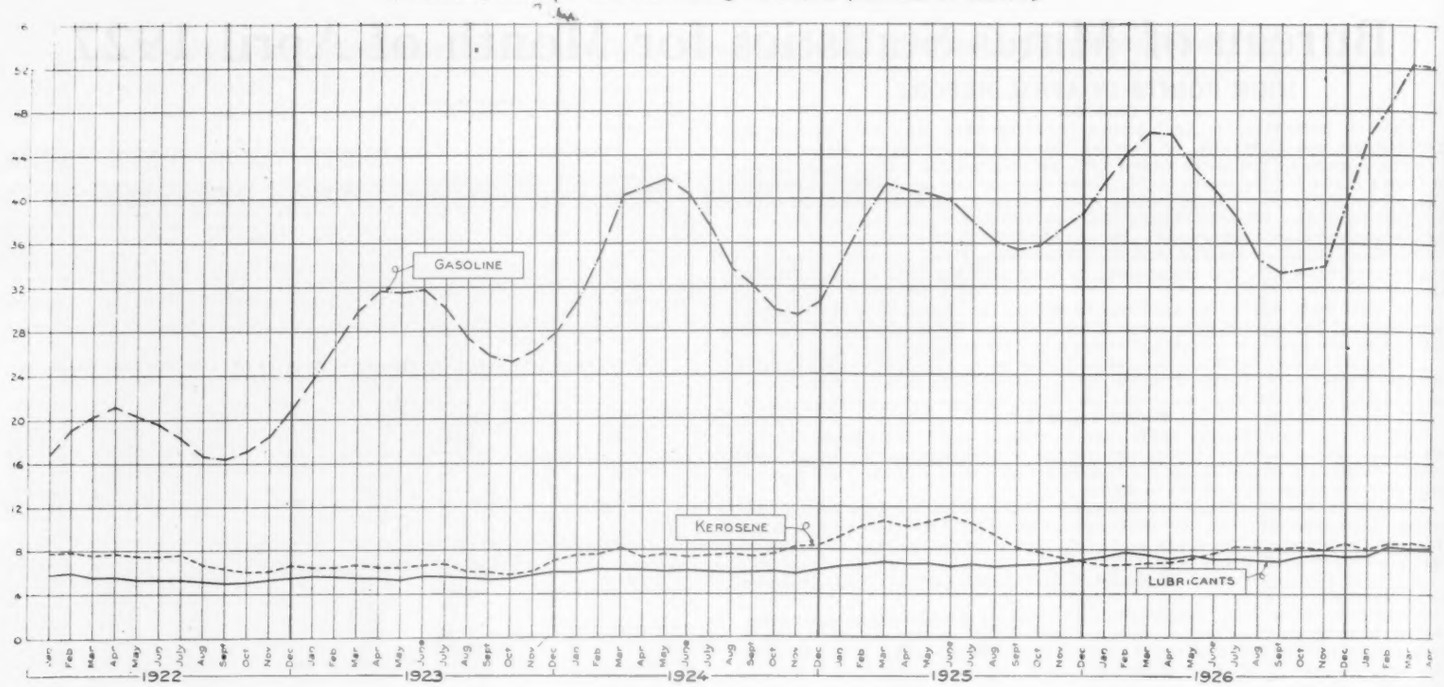
*From Panama Canal Record.

(Continued on Page 82)

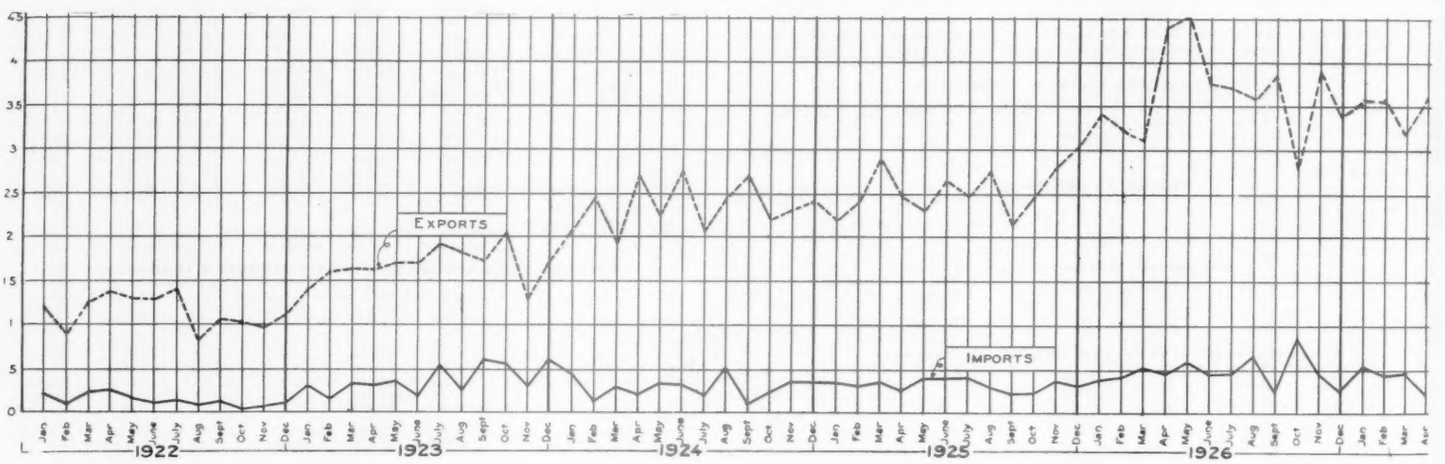
Crude oil supply (production plus imports) and demand (domestic consumption plus exports). Data on demand include California fuel oil starting January 1, 1925 (millions of barrels).



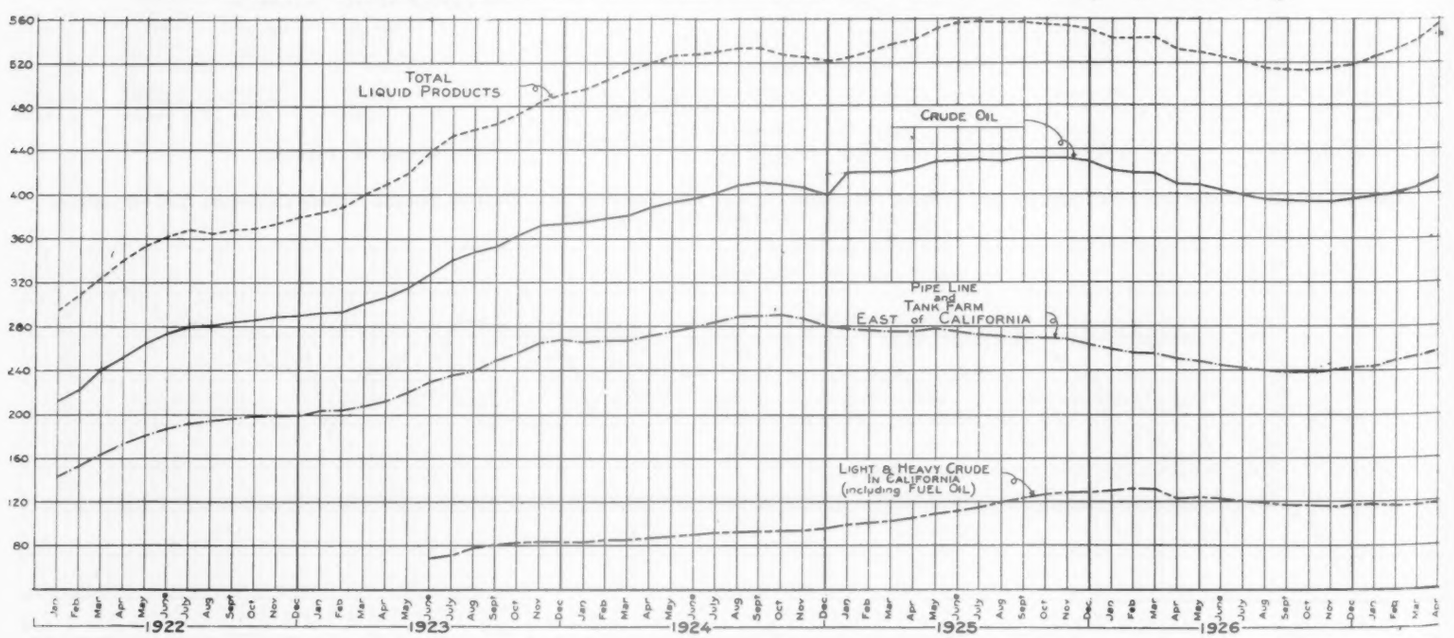
Gasoline, kerosene and lubricating oil stocks (millions of barrels).



Gasoline imports and exports (millions of barrels).



Crude oil stocks. Total liquid stocks consists of all crude and refined stocks reduced to barrels (millions of barrels).



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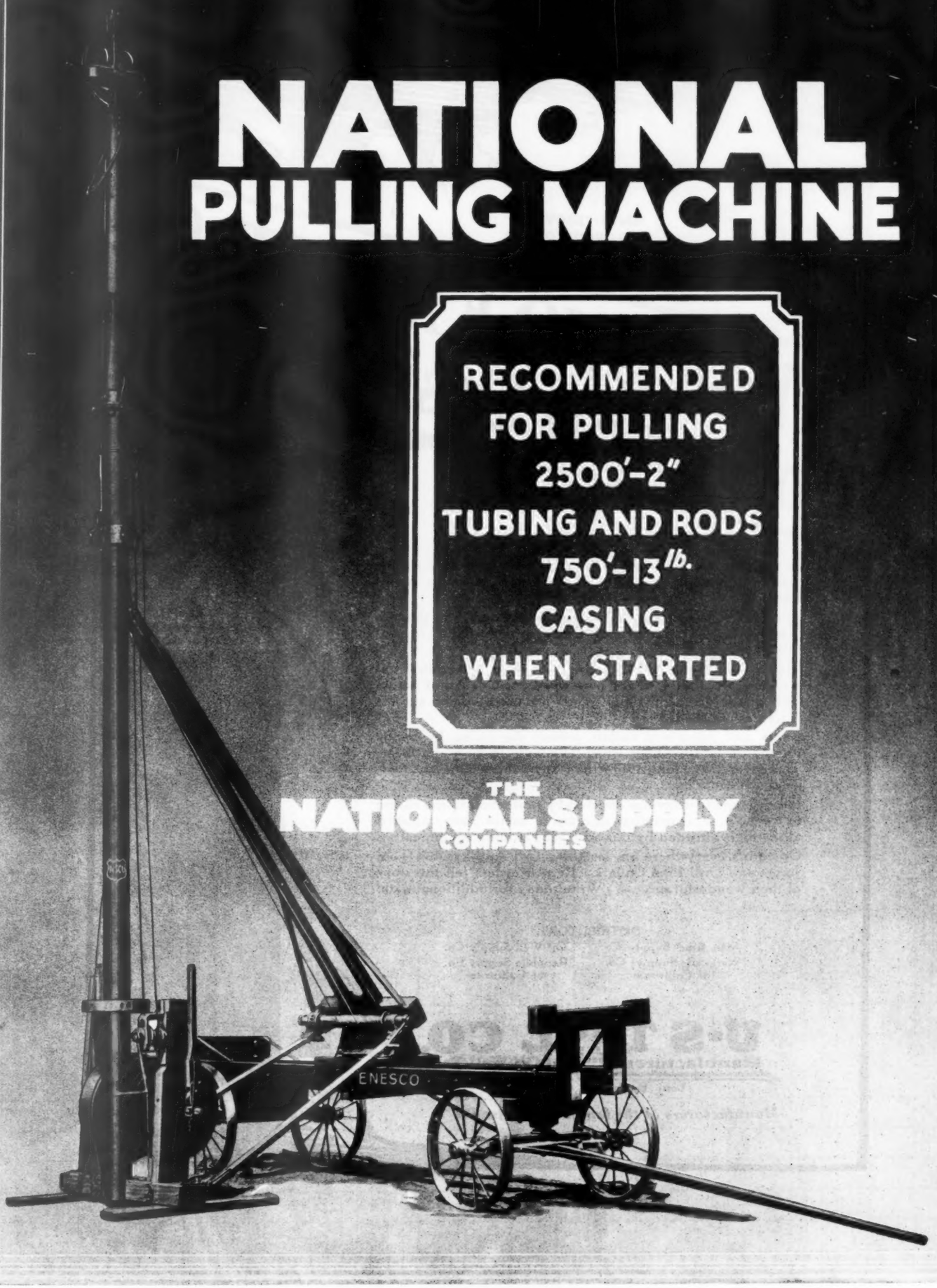

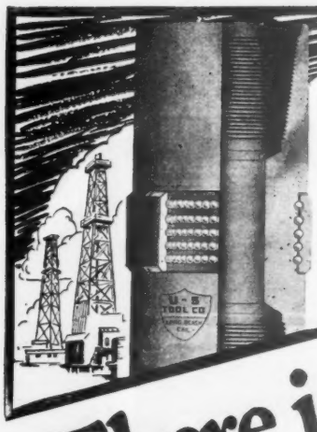

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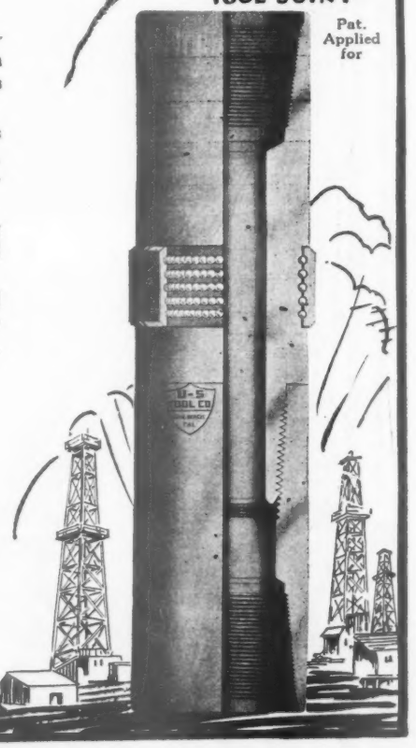

DISTRIBUTORS:

Associated Supply Co. — Oil Well Supply Co.
National Supply Co. of California — Republic Supply Co. of California

U-S TOOL CO.
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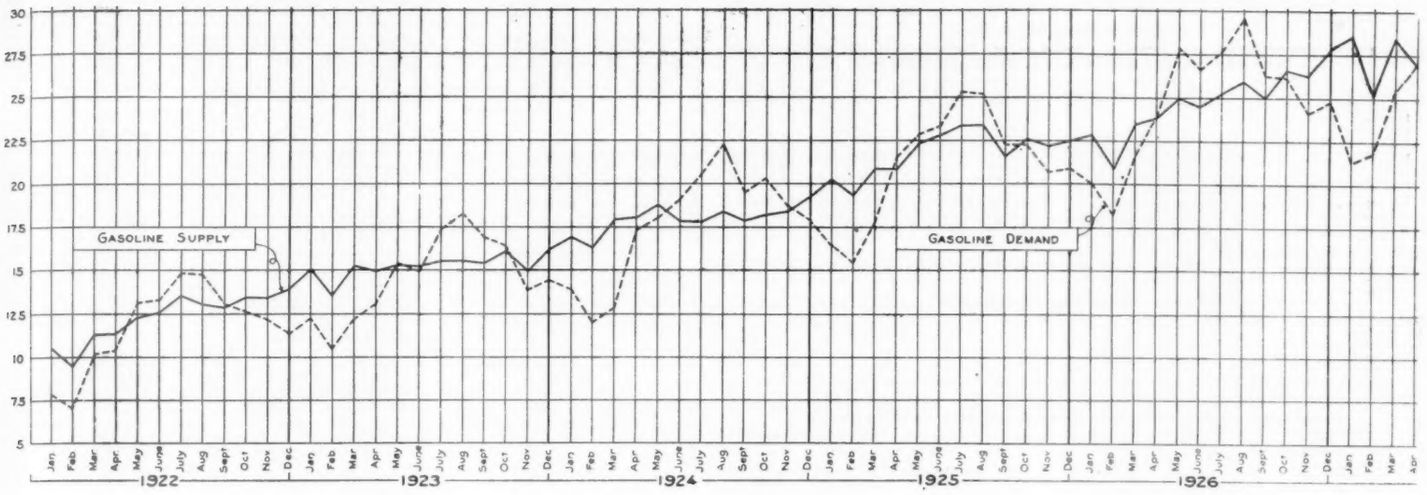
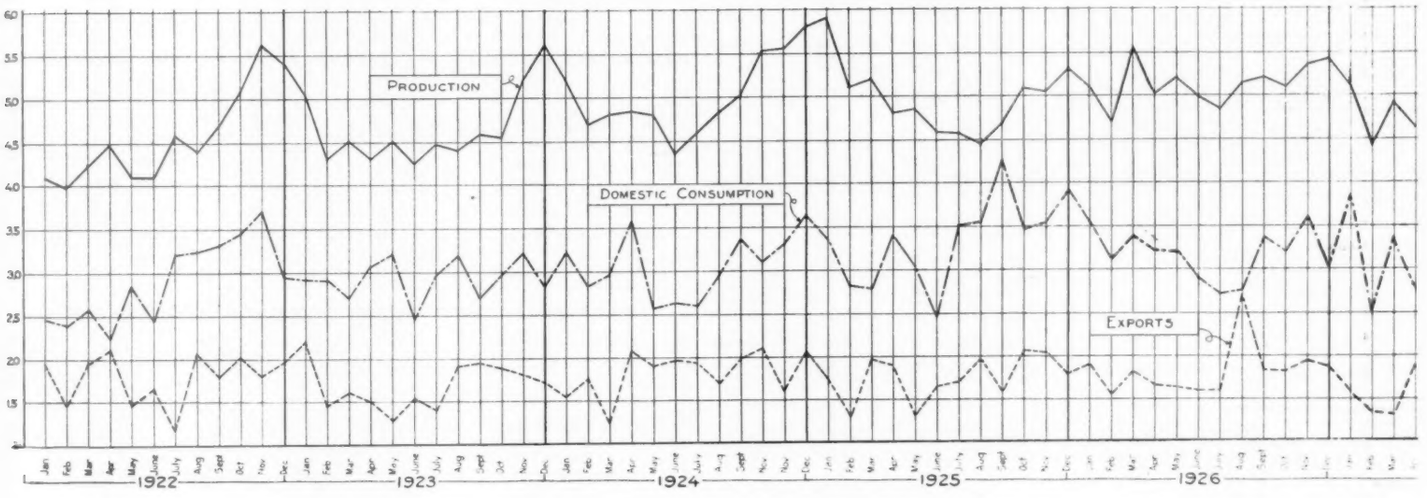
Manufacturers of the famous U-S Disc Bit

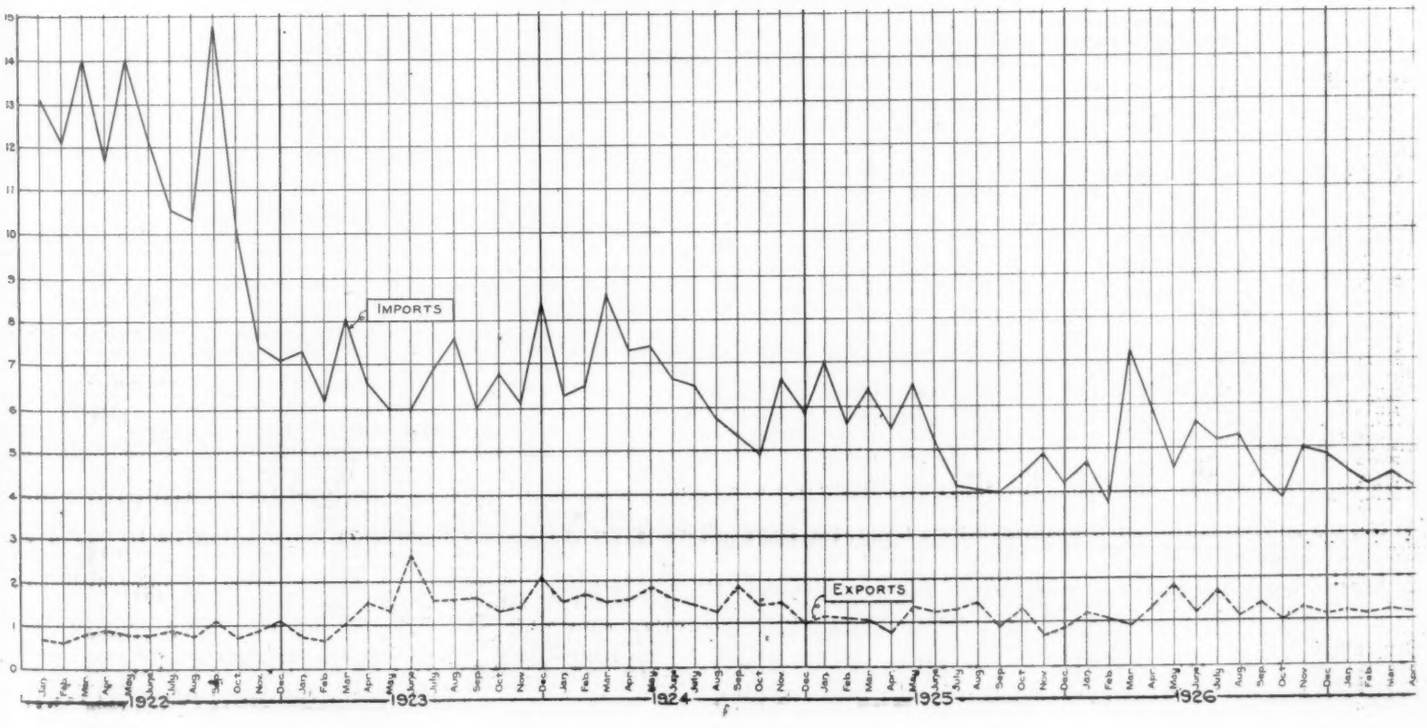
Gasoline Supply (production plus imports) and demand (domestic demand plus exports) (millions of barrels).



Kerosene production, domestic consumption and exports (millions of barrels).



Crude oil imports and exports (millions of barrels).



BUREAU OF MINES STATISTICS FOR APRIL, 1927

(Continued from Page 77)

INDICATED DELIVERIES OF CRUDE PETROLEUM, EXCLUSIVE OF CALIFORNIA GRADES, TO DOMESTIC CONSUMERS (BARRELS)

Domestic petroleum by fields of origin:	March, 1927* Total	March, 1927* Daily Av.	April, 1927* Total	April, 1927* Daily Av.	Jan.-Apr., 1927	Jan.-Apr., 1926
Appalachian	2,603,000	84,000	2,298,000	76,600	9,819,000	8,878,000
Lima-Indiana	141,000	4,500	120,000	4,000	557,000	747,000
Michigan	38,000	1,200	40,000	1,300	136,000	10,000
Illinois-S. W. Ind.	749,000	24,200	636,000	21,200	2,604,000	1,567,000
Mid-Continent	39,658,000	1,279,300	35,504,000	1,183,500	147,631,000	138,093,000
Gulf Coast	4,181,000	134,900	4,057,000	135,300	19,484,000	13,651,000
Rocky Mountain	3,023,000	97,500	2,569,000	85,600	11,369,000	11,388,000
Deliveries and exports	50,393,000	1,625,600	45,224,000	1,507,500	191,600,000	174,334,000
Deliveries	49,727,000	1,604,100	44,606,000	1,486,900	188,779,000	171,196,0 0
Foreign petroleum	4,580,000	147,700	4,027,000	134,200	17,353,000	21,591,000
Deliveries of domestic and foreign petroleum	54,307,000	1,751,800	48,633,000	1,621,100	206,132,000	192,787,000

* Revised.

NUMBER OF WELLS COMPLETED*

March, 1927	1,417
April, 1927	1,528
January-April, 1927	5,672
January-April, 1926	5,015

*For states east of California, from The Oil and Gas Journal; for California from the American Petroleum Institute.

STOCKS OF CRUDE PETROLEUM HELD IN THE UNITED STATES

AT REFINERIES (and in coastwise transit thereto.) Reported by location of storage:		March 31, *1927	April 30, 1927	April 30, 1926
East Coast:				
Domestic		7,230,000	7,464,000	6,664,000
Foreign		2,206,000	2,782,000	3,342,000
Appalachian		1,627,000	1,648,000	1,624,000
Indiana, Illinois, etc.		2,561,000	2,545,000	1,727,000
Oklahoma, Kansas, etc.		3,841,000	3,922,000	4,072,000
Texas:				
Inland		1,197,000	1,173,000	1,025,000
Gulf Coast:				
Domestic		8,481,000	8,220,000	6,642,000
Foreign		257,000	323,000	369,000
Arkansas and Inland Louisiana		441,000	408,000	631,000
Louisiana Gulf Coast:				
Domestic		7,317,000	6,788,000	5,102,000
Foreign		889,000	832,000	1,732,000
Rocky Mountain		1,385,000	1,380,000	1,571,000
Total east of California		37,432,000	37,485,000	34,401,000
ELSEWHERE THAN AT REFINERIES:				
Domestic—Reported by field of origin:				
Appalachian:				
N. Y., Pa., W. Va., Eastern and Central Ohio:	Gross	6,707,000	6,880,000	7,192,000
	Net	6,424,000	6,597,000	6,893,000
Kentucky:	Gross	1,276,000	1,338,000	1,887,000
	Net	1,151,000	1,212,000	1,778,000
Lima-Indiana:	Gross	907,000	942,000	1,091,000
	Net	695,000	731,000	889,000
Illinois-S. W. Indiana:	Gross	12,295,000	12,247,000	12,250,000
	Net	11,810,000	11,762,000	11,771,000
Mid-Continent:				
Oklahoma, Kansas, Central, North and West Texas:	Gross	170,756,000	179,089,000	154,097,000
	Net	159,050,000	167,051,000	141,401,000
Northern Louisiana and Arkansas:	Gross	31,278,000	31,053,000	44,717,000
	Net	28,405,000	27,558,000	42,540,000
Gulf Coast:	Gross	18,248,000	18,323,000	16,606,000
	Net	17,896,000	17,955,000	16,266,000
Rocky Mountain:	Gross	26,886,000	26,937,000	30,167,000
	Net	26,835,000	26,882,000	30,122,000
Total pipe line and tank farm stocks east of California:	Gross	268,353,000	276,809,000	268,007,000
	Net	252,266,000	259,748,000	251,660,000
Foreign crude petroleum on Atlantic Coast		71,000	109,000	56,000
Foreign crude petroleum on Gulf Coast		341,000	339,000	312,000
Total refinery, pipe line and tank farm stocks of domestic and foreign crude petroleum east of California		290,110,000	297,681,000	286,429,000
CLASSIFICATION BY GRAVITY (approx.):				
East of California:				
Light crude (24 degrees and above)		244,785,000	251,459,000	226,799,000
Heavy crude (below 24 degrees)		45,325,000	46,222,000	59,630,000
California:				
Light		29,568,000	29,460,000	33,634,000
Heavy (including fuel)		87,886,000	88,383,000	85,656,000

*Revised.

COMPARATIVE ANALYSIS

(Thousands of barrels of 42 U. S. gallons)

	Production† Total	Dy. Av.	Imports† Total	Dy. Av.	Exports† Total	Dy. Av.	Stocks end of period	dom.dem.— Total	Dy. Av.
Crude Petroleum:									
March, 1927	69,082	2,228	4,434	143	1,199	39	*290,110	.....	.....
April, 1927	66,964	2,232	4,063	135	1,171	39	*297,681	.....	.....
Jan.-Apr., 1927	269,345	2,245	17,192	143	4,739	39	*297,681	.....	.....
April, 1926	61,786	2,060	5,906	197	1,308	44	*286,429	.....	.....
Jan.-Apr., 1927	242,713	2,023	21,553	180	4,506	38	*286,429	.....	.....
Gasoline:									
March, 1927	27,886	900	493	16	3,219	104	52,410	22,464	725
April, 1927	26,577	886	377	13	3,614	120	52,379	23,371	779
Jan.-Apr., 1927	107,447	895	1,806	15	13,934	116	52,379	81,963	683
April, 1926	24,296	810	454	15	4,256	142	45,767	20,848	695
Jan.-Apr., 1926	92,631	772	1,763	15	13,956	116	45,767	73,546	613
Kerosene:									
March, 1927	4,802	155	3	...	1,351	44	8,753	3,356	108
April, 1927	4,608	154	1	...	1,861	62	8,725	2,776	93
Jan.-Apr., 1927	18,976	158	5	...	6,237	50	8,725	12,604	105
April, 1926	5,037	168	1	...	1,760	59	7,014	3,268	109
Jan.-Apr., 1926	20,421	170	3	...	7,084	59	7,014	13,447	112
Lubricants:									
March, 1927	2,754	89	149	5	895	29	8,035	2,334	75
April, 1927	2,615	87	1	...	763	25	8,176	1,712	57
Jan.-Apr., 1927	10,284	86	231	2	3,142	26	8,176	6,773	56
April, 1926	2,692	90	3	...	928	31	7,368	2,039	68
Jan.-Apr., 1926	10,434	87	10	...	3,184	27	7,368	7,145	60
Wax (thousands of pounds):									
March, 1927	53,644	1,731	910	29	28,205	910	201,340	23,461	757
April, 1927	48,917	1,631	1,505	50	25,421	847	211,019	15,322	511
Jan.-Apr., 1927	204,038	1,700	4,923	41	106,477	887	211,019	76,796	640
April, 1926	55,371	1,846	647	23	31,560	1,052	136,084	18,715	624
Jan.-Apr., 1926	214,407	1,787	2,403	20	114,335	953	136,084	82,782	690
Gas and Fuel Oils:									
March, 1927	32,377	1,044	525	17	3,657	118	*22,561	.....	.....
April, 1927	31,856	1,062	805	27	3,325	111	*23,732	.....	.....
Jan.-Apr., 1927	127,354	1,061	3,043	25	14,526	121	*23,732	.....	.....
April, 1926	29,029	968	1,148	38	6,475	216	*19,788	.....	.....
Jan.-Apr., 1927	114,928	958	4,543	38	12,622	105	*19,788	.....	.....

** Figures in this column for crude petroleum are runs to stills. † From Bureau of Foreign and Domestic Commerce—subject to revision. Exports, except for wax, include shipments to Alaska, Hawaii, and Porto Rico. * These stocks total for east of California only.

RUNS TO STILLS AND OUTPUT OF REFINERIES IN THE UNITED STATES, APRIL, 1927

	Crude oil— Domestic	Foreign	Unfinished oils	Natural-gas gasoline	Total oils run to stills
East coast	8,635,000	2,823,000	691,000	202,000	12,341,000
Appalachian	2,358,000	.....	114,000	60,000	2,532,000
Ind., Ill., etc.	5,571,000	.....	389,000	162,000	6,122,000
Okla., Kans., etc.	8,033,000	.....	236,000	313,000	8,582,000
Texas	13,282,000	190,000	912,000	453,000	14,747,000
Louisiana and Arkansas	5,720,000	465,000	134,000	22,000	6,732,000
Rocky Mountain	2,336,000	.....	586,000	93,000	3,015,000
California	17,650,000	.....	*252,000	558,000	18,460,000
United States Total	63,575,000	3,389,000	3,304,000	2,263,000	72,531,000
Daily average, April, 1927	2,119,200	113,000	110,100	75,400	2,417,700
Daily average, March, 1927	2,106,300	122,100	116,700	75,900	2,421,000
Texas Gulf Coast	10,339,000	100,000	896,000	384,000	11,719,000
Louisiana Gulf Coast	4,021,000	466,000	15,000	348,000	4,850,000

Output and Losses

	Gasoline (bbls.)	Kerosene (bbls.)	Gas and fuel oils (bbls.)	Lubricants (bbls.)	Wax (lbs.)
East coast	3,961,000	870,000	5,152,000	838,000	17,846,000
Appalachian	1,026,000	342,000	571,000	336,000	7,482,000
Ind., Ill., etc.	3,193,000	387,000	1,653,000	236,000	5,674,000
Oklahoma, Kansas etc.	4,221,000	746,000	2,700,000	198,000	4,328,000
Texas	5,881,000	936,000	6,028,000	670,000	5,594,000
Louisiana and Arkansas	1,863,000	577,000	3,100,000	88,000	4,316,000
Rocky Mountain	1,402,000	209,000	596,000	53,000	3,677,000
California	5,030,000	541,000	12,056,000	196,000	.....
United States Total	26,577,000	4,608,000	31,856,000	2,615,000	†48,917,000
Daily average, April, 1927	885,900	153,600	1,061,900	87,200	1,630,600
Daily average, March, 1927	899,500	154,900	1,044,400	88,800	1,730,500
Texas Gulf Coast	4,700,000	758,000	4,653,000	646,000	5,433,000
Louisiana Gulf Coast	1,484,000	523,000	1,883,000	87,000	4,316,000

Output and Losses (Continued)

	Coke (tons)	Asphalt (tons)	Other finished products (bbls.)	Unfinished products (bbls.)	Losses (bbls.)
East coast	14,660	141,001	117,000	58,000	480,000
Appalachian	2,147	381	23,000	68,000	123,000
Ind., Ill., etc.	19,975	18,410	84,000	119,000	221,000
Okla., Kans., etc.	17,764	736	49,000	182,000	366,000
Texas	16,770	20,557	12,000	370,000	643,000
Louisiana and Arkansas	11,415	48,650	120,000	537,000	109,000
Rocky Mountain	5,673	2,199	13,000	644,000	35,000
California	.....	41,833	143,000	*	260,000
United States Total	†88,404	†273,767	561,000	1,978,000	2,237,000
Daily average, April, 1927	2,947	9,126	18,700	65,900	74,600
Daily average, March, 1927	3,167	7,171	16,900	77,800	76,400
Texas Gulf Coast	14,654	20,557	3,000	223,000	541,000
Louisiana Gulf Coast	10,852	47,054	110,000	387,000	51,000

* Net unfinished oils—usual gross figures not yet available. † Wax, coke, and asphalt equivalent to 277.9 pounds per barrel and 5.18 and 5.35 barrels per ton respectively.

GASOLINE PRODUCTION BY THE VARIOUS METHODS—APRIL, 1927 (BARRELS)

	Straight run	%	Cracked	%	Natural-gas gasoline	%	Total
East coast	2,509,000	63	1,250,000	32	202,000	5	3,961,000
Appalachian	727,000	71	239,000	23	60,000	6	1,026,000
Indiana, Illinois, etc.	1,693,000	53	1,338,000	42	162,000	5	3,193,000
Oklahoma Kansas etc.	2,706,000	64	1,202,000	29	313,000	7	4,221,000
Texas	3,081,000	52	2,347,000	40	453,000	8	5,881,000
Louisiana and Arkansas	1,006,000	54	435,000	23	422,000	23	1,863,000
Rocky Mountain	760,000	54	549,000	39	93,000	7	1,402,000
California	3,829,000	76	303,000	6	*898,000	18	5,030,000
United States Total	16,311,000	61	7,663,000	29	2,603,000	10	26,577,000
United States Total, 3/27	16,488,000	59	8,704,000	31	2,694,000	10	27,886,000
Gulf coasts	3,016,000	49	2,436,000	39	732,000	12	6,184,000

* Includes natural-gas gasoline run through pipe lines.

STOCKS HELD BY THE REFINING COMPANIES IN THE UNITED STATES, APRIL 30, 1927

	Gasoline (bbls.)	Kerosene (bbls.)	Gas oil and fuel oils (bbls.)	Lubricants (bbls.)
East coast	11,166,000	1,621,000	6,587,000	2,821,000
Appalachian	1,246,000	294,000	835,000	984,000
Indiana, Illinois, etc.	5,690,000	774,000	961,000	720,000
Oklahoma, Kansas, etc.	4,595,000	603,000	4,473,000	452,000
Texas	7,331,000	1,773,000	7,870,000	2,026,000
Louisiana and Arkansas	3,642,000	1,396,000	2,508,000	128,000
Rocky Mountain	5,204,000	446,000	498,000	125,000
California	13,498,000	1,818,000	.....	920,000
United States Total	52,379,000	8,725,000	*23,732,000	8,176,000
United States Total 3/31/27	52,410,000	8,753,000	*22,561,000	8,035,000
Texas Gulf coast	6,473,000	1,289,000	6,658,000	1,995,000
Louisiana Gulf coast	3,50[illegible],000	1,352,000	1,915,000	128,000

	Wax (lbs.)	Coke (tons)	Asphalt (tons)	Other finished products (bbls.)	Unfinished oil (bbls.)
East coast	105,575,000	20,269	98,555	164,000	5,079,000
Appalachian	22,620,000	489	365	85,000	1,128,000
Indiana, Illinois, etc.	21,922,000	12,734	3[illegible],926	454,000	3,391,000
Oklahoma, Kansas, etc.	7,978,000	48,021	1,6[illegible]	280,000	2,620,000
Texas	15,971,000	97,321	9,356	8,000	9,472,000
Louisiana and Arkansas	27,506,000	62,386	27,222	52,000	3,217,000
Rocky Mountain	9,324,000	77,309	7,271	15,000	2,206,000
California	123,000	.....	50,750	352,000	10,982,000
United States Total	211,019,000	318,529	219,502	1,410,000	38,095,000
U. S. Total 3/3/27	201,340,000	325,521	235,251	1,356,004	39,392,000
Texas Gulf coast	15,695,000	92,441	9,350	5,000	8,841,000
Louisiana Gulf coast	27,506,000	60,427	27,003	44,000	2,979,000

* East of California. † Includes 3,424,000 bbls. tops in storage.

Natural-Gas Gasoline, April, 1927

The production of natural-gas gasoline for April, 1927, amounted to 133,200,000 gallons, a daily average of 4,440,000 gallons—a new high figure. This represents an increase over the revised figures for daily average production in March of 10,000 gallons per day and over April, 1926, of 790,000 gallons, or 22 per cent. Because of developments at Seminole, the daily average production of Oklahoma registered a material increase, which was mainly responsible for the gain in national output. Storage continued to increase and on April 30 amounted to 30,463,000 gallons, a new high figure and an increase over the preceding month of approximately 2,500,000 gallons.

(Thousands of gallons)

	Natural-gas Gasoline *Production Mar., 1927	Apr., 1927	Apr., 1926	Stocks end mo. Mar., 1927	Apr., 1927	Blended motor Fuel—April, 1927 Natural gas gasoline used	Naphtha or other oils used	Stocks end of month
Appalachian	9,600	8,300	8,700	3,435	4,440	276	248	295
Ind., Ill., etc.	1,500	1,400	1,600	360	555	73	13	16
Okla., Kans., etc.	†45,600	45,300	42,200	13,970	14,185	2,141	3,481	1,135
Texas	28,400	26,400	18,200	7,974	8,911	326	599	353
Louisiana and Ark.	7,000	7,000	6,000	1,740	1,928	226	297	35
Rocky Mountain	4,000	4,000	3,600	497	444	92	148	89
Total east of Calif.	† 96,100	92,400	80,300	27,976	30,463	3,135	4,787	1,923
California	41,300	40,800	29,300	1,286	1,311	Not Available		1
Total United States	†137,400	133,200	109,600	29,262	31,774	.....	.....	1,924
Daily average	4,430	4,440	3,650	.....	.....	.....	.....	.....

*Approximately 97 per cent net production; 3 per cent gross. †Revised.

The indicated output of motor fuel from the above and other sources may be expressed by the following table:

(Continued on Page 86)

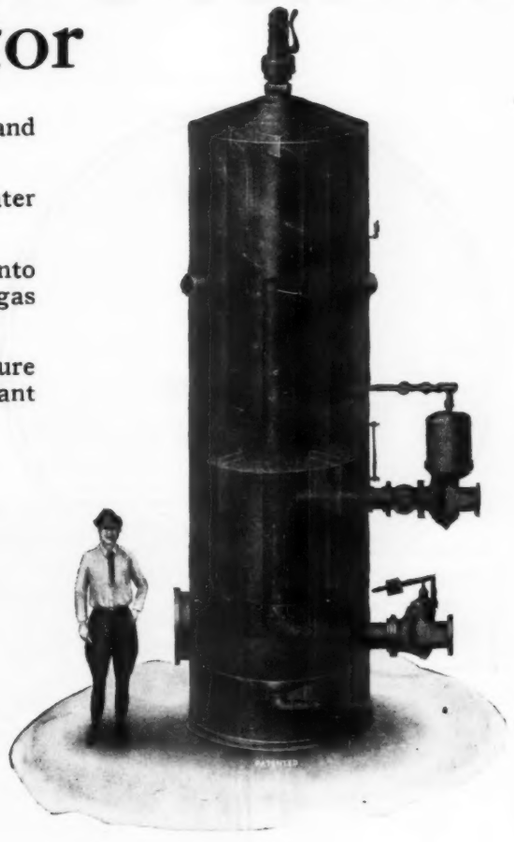
The Buck Separator

SCRUBS Gas CLEAN—free from oil-mist and liberates fixed gas.

SETTLES Out all B. S., floating sand and water from the oil.

DELIVERS More clean settled pipe line oil into stock tanks—more clean gas into gas lines.

PROVIDES An accurate, constant Back Pressure Control, not affected by gas plant vacuum.



BUCK
Oil and Gas Separators

Different—

No two wells are alike. No two sands—no two locations—require the same conditions to produce the oil most efficiently. What is right for one is wrong for another.

Production Superintendents who are making records—Production Engineers who are jealous of their oil-gas ratios—apply the degree of back pressure that is best for each well.

Absolute Control at Will

Here is a separator in which back pressures can be controlled at will—just what the well requires—no more, no less. Centrifugal force compounded and a complete reversal of flow scrubs the gas clean and keeps it free from oil mist.

For Every Purpose

Gas for fuel, for camp use, for natural gasoline plants, or for re-cycling, is stripped dry of every last particle of oil mist. There is no loss of oil through relief valves or gas lines.

Increased Production Gravity Maintained

Oil is so handled through the reversing flow separation chamber that mud, sand, water and B. S. are settled out. *All* the oil—and only clean oil goes over to stock tanks. Production is increased and gravity maintained. Dissolved gas is eliminated from the oil in greatest degree—thus subsequent evaporation loss is consequently reduced.

Ample Capacity

Made in two sizes, for maximum pressure at 100 lbs. per square inch:

2,000 to 6,000 bbls. oil, 5,000,000 to 30,000,000 Cu. Ft. Gas.

4,000 to 12,000 bbls. oil, 5,000,000 to 30,000,000 Cu. Ft. Gas in 24 hours, depending on pressure carried.

Steam coils and steam jackets can be furnished when required, continuing regular production regardless of cold weather and heavy paraffin oils.

Available Now!

If you will write us for our Bulletin No. 5 on Buck Separators, we can more completely elaborate the problems and tell you specifically WHY Buck equipment tends for conservation. There is no obligation, write today.

G·B MFG. CO — KANSAS CITY, MO.

BUCK OIL CONSERVATION EQUIPMENT

Type A Sensitive Regulators
Casing Head Regulators
Liquid Level Controllers
Tank Valves and Equipment
Oil and Gas Separators
Oil Field Supplies

BELTING
Rubber Canvas Leather Cotton Balata

HOSE
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PACKING
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GASKETS
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WASTE
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MISC'L
Matting Drills Pulleys Picks Shovels

Gustin-Bacon Mfg. Co.
Vacuum Control Division
Kansas City, Mo. Tulsa, Oklahoma

WHAT'S REALLY GOOD, FIND

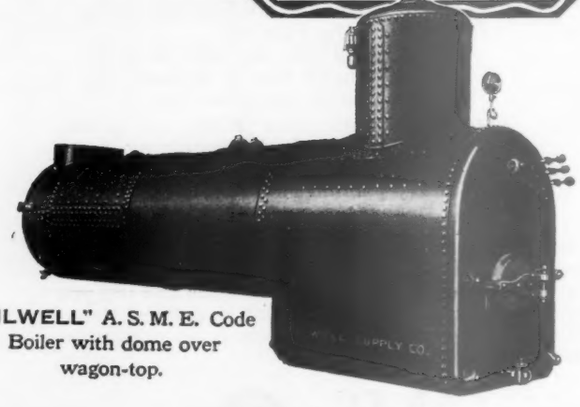
"OILWELL" Boiler in Punjab, India

"OILWELL" Boilers for South America

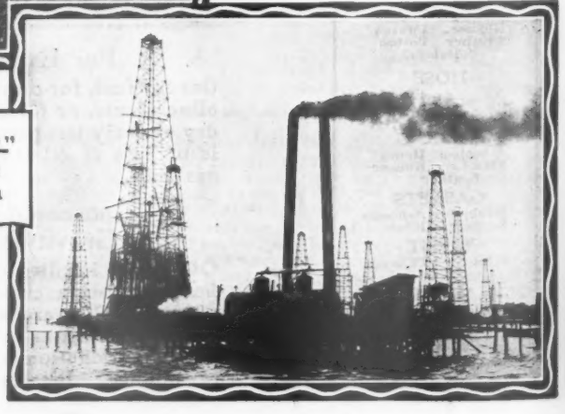
"OILWELL" Boiler in France

"OILWELL" Boiler in Bolivia

"OILWELL" Boiler in Spain



"OILWELL" A. S. M. E. Code Boiler with dome over wagon-top.



"OILWELL" Boilers in Venezuela

"OILWELL" ESTD. 1862 TRADE MARK. (REGISTERED)

OIL WELL SU

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUI

NDS ITS WAY EVERYWHERE

"OILWELL" Boilers are in use in every oil field in the world, and are renowned for their steaming qualities, durability and workmanship.

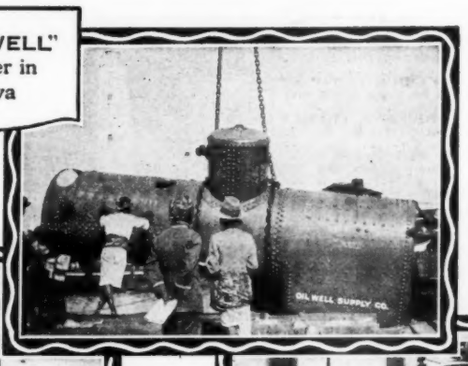
They are built in A. S. M. E. Code Locomotive, A. S. M. E. Code Horizontal Tubular, Canadian Locomotive, and British India Locomotive Types.

All "OILWELL" A. S. M. E. Code Boilers are built in strict accordance with the 1924 Code of the American Society of Mechanical Engineers. "OILWELL" Boilers can also be furnished in accordance with A. P. I. standards.

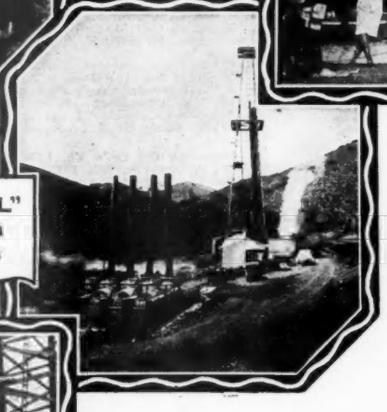
"OILWELL" A. S. M. E. Code Locomotive Type Boilers can be furnished for 150, 175 or 200 pounds working pressure, with dome located either over the wagon-top or over the barrel. Also either mounted or unmounted.

Send for special Bulletin, or inquire at any of our 100 Branches.

"OILWELL" Boiler in New Zealand

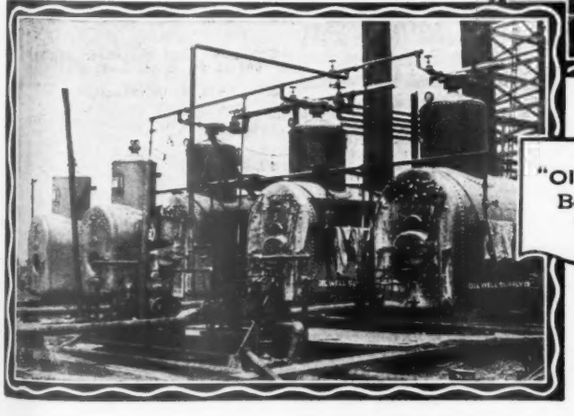


"OILWELL" Boiler in Java

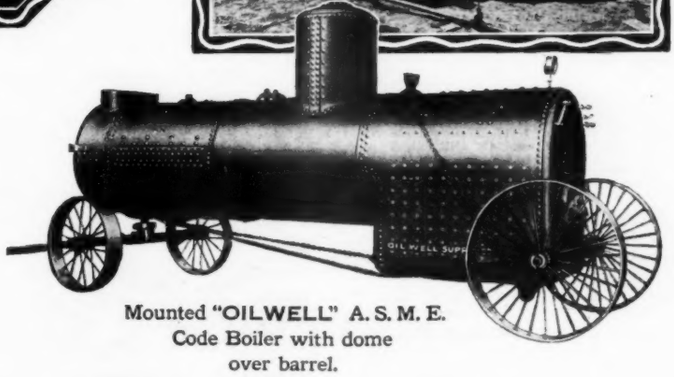


"OILWELL" Boilers in California

"OILWELL" Boilers in Oklahoma



"OILWELL" Boilers in Texas



Mounted "OILWELL" A. S. M. E. Code Boiler with dome over barrel.

SUPPLY CO.

ELD EQUIPMENT

BRANCH STORES IN ALL OIL FIELDS

"OILWELL" EST'D. 1862. TRADE MARK. (REGISTERED)

BUREAU OF MINES STATISTICS FOR APRIL, 1927

(Continued from Page 82)

(Thousands of gallons)

	March 1927	April 1927	April 1926
Total gasoline produced at refineries *†	1,171,200	1,116,200	1,020,400
Raw gasoline blended at plants east of California	2,500	3,100	2,200
Raw gasoline sold direct to jobbers (estimated)	800	800	800
‡Benzol production	9,500	9,100	7,200
Total motor fuel produced	1,184,000	1,129,200	1,030,600
Daily average	38,190	37,640	34,350
*Includes natural-gas gasoline blended at refineries	98,800	95,000	88,300
†Includes natural gas-gasoline run through refinery pipe lines in California	14,300	14,300	10,700

‡Estimated with production of by-product coke as a basis.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 41)

COTTLE COUNTY

Exploration Co.'s No. 1 Richards ... Spudded.
Sun Oil Co.'s No. 1 Tom Burnett, C NW SE Sec. 6, Blk. L, S. P. R. R. Sur. ... Drlg., 2,160 ft.

CROCKETT COUNTY

Anchor Oil Co. (Cumberland) No. 1 Couch, C NE Sec. 18, Blk. QR, D. & S. E. T. R. R. Sur ... Shut down 3,075 ft.
V. T. Bolin & Co.'s No. 1 P. C. Coates, NW cor. SW Sec. 4, Blk. 2, I. & G. N. Sur. ... S.D., 2,110 ft.
J. K. Hughes' No. 2-B Powell, Sec. 63, E. L. & R. R. Sur. ... Fishing for 18 joints 8-in.; total depth 2,535 ft; shut down.
William Shaffer and others' No. 1 University, C SE SE Sec. 9, Blk. 47, University Sur., elev. 2,344 ft. ... T.D., 2,344 ft.; plugged back to 2,208 ft; shot 10 qts. 2,170-95 ft.; S.D.
William Schaffer et al's No. 2 University, 1,350 ft. N and 2,610 ft. E of SW cor. Sec. 9, Blk. 47, Univer. Land. ... Drlg., 715 ft.
W. W. Donnelly, Young, Logan & Hult's No. 1 Pierce, C SW Sec. 150, Blk. O. G. H. & S. A. Sur., elev. 2,105 ft. ... Rainbow show 454 and 540 ft.; S.D. for 10-in., 1,375 ft.
P. H. Williams' No. 1 L. P. Powell, NE cor. Sec. 53, Blk. BB ... Top salt, 1,052 ft; top lime, 2,466 ft; flowed 341 bbls., 2,575-90 ft., 33.5 gravity.
World Oil Co.'s No. 1 Schneeman, N and W SE cor. Sec. 57, Blk. BB, G. C. & S. F. Sur., elev. 2,679 ft. ... Top salt 1,035 ft.; sulphur water 2,490 ft.; T.D. 2,575 ft.; trying to swedge pipe.
Young & Donnelly's No. 1 J. M. Shannon, Sec. 9, Blk. 8, D. & S. E. Sur. ... Rigging up.

CULBERSON COUNTY

James H. Gardner and others' No. 1 Radford, C SE Sec. 29, Blk. 62, Pub. Sch. Ld. Sur. ... S.D., 450 ft.

DICKENS COUNTY

Bowser Mickels et al's No. 1 Pitchford ranch, Sec. 1, Blk. 1, Sam Lazarus Sur. ... S.D., 3,400 ft.

ECTOR COUNTY

J. S. Cosden, Inc., et al's No. 2 Connell-A, NW cor. NE Sec. 13, B-16, School land, elev. 2,844 ft. ... Top salt, 870 ft; drlg., 2,870 ft.
J. S. Cosden et al's No. 3 G. W. Connell-A ... Top salt, 863 ft; drlg., 2,535 ft.

FISHER COUNTY

Barber Oil Co.'s (was Mason Oil Co.'s) No. 1 W. A. Cross. ... Hole full salt water, 2,350-70 ft; drlg., 2,770 ft.
Zoch & McCamey and Marland Oil Co.'s No. 1 Lanius-A, (was Danciger O. & R. Co.'s No. 1 Lanius), NE cor. SE, Sec. 15, Blk. Y, T. & P. Sur. ... Set 5-in., 3,661 ft; hole full water 3,770 ft; drlg., 3,780 ft.
Ideal Oil Co.'s No. 1 Jameson, C SE Sec. 111, Blk. 1, H. & T. C. Sur. ... Hole full salt water, 2,345-2,520 ft; S.D., 2,707 ft. for water.
Marland Oil Co. and Texon's No. 1 McCall, Sec. 108, Blk. 3, H. & T. C. Sur. ... Rig.
Marland Oil Co. and Vacuum Oil Co.'s No. 1 J. H. R. Lagow, Sec. 3, Blk. 22, T. & P. Sur. ... Set 10-in., 2,076 ft; drlg., 2,110 ft.
Miley Oil Corp. and Marland Oil Co.'s No. 1 W. W. Ammons, Sec. 198, Blk. 3, H. & T. C. Sur. ... Spudded May 30.
R. W. Raney's No. 2 Maberry, Sec. 56, Blk. 1, T. & P. Sur. ... S.D. for orders, 2,725 ft.
Sinclair Oil & Gas Co.'s (was Bourdon Royalty Co.'s) No. 1 J. A. Danise, Sec. 6, Blk. K. T. & P. Sur. ... S.D. for casing, 565 ft.
Stearns & Streeter's No. 1 W. A. Howell, N and E SW cor. NE Sec. 12, Blk. 23, T. & P. Sur. ... Set 6-in., 3,565 ft; drlg., 3,665 ft.
The Texas Company's No. 1 D. S. Stevens, C SW SE SE Sec. 79, Blk. 1, H. & T. C. Sur. ... Set 12-in., 731 ft. and S.D.

FOARD COUNTY

Fain-McGaha Oil Corp.'s No. 1 Mathews. ... Sandy lime, 855-60 ft; 1,000,000 ft. gas; C.O., 935 ft.
Humble O. & R. and Navarro Oil Co.'s No. 1 L. McAdams, C S ½ Sec. 27, Blk. L, S. P. Sur. ... Hole full water, 2,560 ft; U.R. 8¼-in. cas. to 2,850 ft.
The Texas Company's No. 1 Watkins. ... Rig on ground.

GAINES COUNTY

Westheimer & Daube's No. 1 Birge & Forbes Land Co., Sec. 308, Terrell County Sch. land. ... Rotary; drlg., 2,100 ft.

GARZA COUNTY

Emerald Oil Co.'s No. 1 D. Boren, NW cor. NE Sec. 137, Blk. 5, H. & G. N. Sur. ... Small show oil in gray lime 1,884-1,902 ft; S.D., 2,600 ft.
Pandem Oil Co.'s No. 1 Justice, SW cor. NW Sec. 2, Blk. 6, H. & G. N. Sur. ... Moving in machinery.

GLASSCOCK COUNTY

California Co.'s No. 1 W. B. Currie, Sec. 215, Blk. 29. ... New location.
Green et al's No. 1 F. G. Oxsheer, Sec. 6, Blk. 34, T. & P. Sur. ... S.D., 200 ft.
World Oil Co. and J. S. Meriwether's No. 1 L. S. McDowell, C SW Sec. 43, Blk. 34, Typ. 2-S, T. & P. Sur., elev. 2,553 ft. ... Drlg., 600 ft.
R. R. Penn et al's No. 1 W. P. Edwards, C SE Sec. 11, Blk. 34, Twp. 2-S, T. & P. Sur., elev., 2,501 ft. ... Slight show oil, 905 ft. in brown sand; top salt, 1,295 ft; drlg., 1,950 ft.
Sid Richardson et al's No. 1 Burns, NE cor. SW Sec. 183, Blk. 29 ... Rigging up.

HOCKLEY COUNTY

El Capitan Oil Co.'s No. 1 Ellwood, SW cor. Sec. 55, Blk A. R. M. Thompson Sur., 18 miles NW of Lubbock ... Drlg., 1,175 ft.
World Oil Co.'s No. 1 Ellwood, Sec. 6, Wilbarger County Sch. land ... Location.

HOWARD COUNTY

Bowers et al's No. 1 Chester Jones, C SW Sec. 32, Blk. 27, T. & P. (3,200-ft. test). ... Drlg., 480 ft.
Fred Carey et al's No. 2 G. O. Chalk, SE NW Sec. 124, Blk. 29 ... S.D., 1,140 ft.
W. W. Donnelly et al's No. 1 Martin, SE cor. Sec. 41, Blk. 33, T-2-N, T. & P. Sur. ... S.D., 1,519 ft. for water.
Francis & Brunson's No. 1 J. W. Furrh, C SW Sec. 11, Blk. 31, T. & P. Sur., T-1-S. ... Location.
F. H. E. Oil Co.'s No. 1 John Roberts. ... Hole full sulphur water, 1,397-1,401 ft; T.D., 1,575 ft; run 5-in.
Godley Oil Co.'s No. 1 A. J. Hooks, Sec. 140, Blk. 29. ... Drlg., 1,750 ft.
Marland Oil Co. and Zoch's No. 1 Jones, Sec. 32, Blk. 27, T. & P. Sur., elev., 2,218 ft. ... S.D., 500 ft.
Marland Oil Co.'s No. 1 A. M. Fisher, Sec. 1, Blk., 33, T. & P. Sur., T-2-S; elev., 2,730 ft. ... Fish, tools, 490 ft.
Marland Oil Co.'s No. 1 J. B. Harding, C SE Sec. 19, Blk. 32, T. & P. Sur. ... Corrected pay, 3,173-3,230 ft; shot 200 qts. 3,158-88 ft; swabbed 125 bbls; testing on pump.
L. C. Harrison et al's No. 1 Dora Roberts, Sec. 156, Blk. 29 ... U.R. 10-in., 1,650 ft.
Marland Oil Co. and Zoch's No. 1 Guitar est., No. 1, Sec. 4, Blk. A, Bauer & Cockrell Sur., elev., 2,517 ft. ... Top salt, 1,155 ft; drlg., 3,120 ft.
Owens & Sloan's No. 1 John Roberts, Sec. 136, Blk. 29, W. & N. W. Sur. ... Drlg., 1,390 ft.

HARDEMAN COUNTY

Murchison Oil Co.'s No. 1 Mayfield. ... Rotary; drlg., 2,400 ft.

HUDSPETH COUNTY

Lockhart Brothers' No. 1 Gardner & Moseley, C SE Sec. 5, School Blk. 21. ... Drlg., 235 ft.

IRION COUNTY

Cash Dollar et al's No. 1 G. J. Bird, NE Sec. 16, Blk. 10, S. P. R. R. Sur. ... S.D., 1,040 ft.

JEFF DAVIS COUNTY

Humble O. & R. Co.'s No. 1 Crecencio Flores, Sec. 34, Blk. 58, T. & P. Sur. T-8. ... Straightening crooked hole, 300 ft.
J. K. Hughes Dev. Co.'s No. 1 J. Z. Means, 600 ft. from N line and 2,000 ft. from W line of M. Robinson Sur. No. 1. ... Hole full fresh water, 3,075 ft; T. D., 3,084 ft; U.R., 6-in.

JONES COUNTY

Atlantic O. P. Co. and Landreth's No. 2 Howell ... Missed regular pay; S.D. 2,700 ft.
Bateman & Campbell's No. 1 Southard, C. NW NW Sec. 43, Deaf & Dumb Asylum Lands. ... Drlg., 2,277 ft.
E. R. Brann's No. 1 E. M. Hawk, Sec. 71, Blk. 14, T. & P. Sur. ... Moving in material.
Midwest Exploration Co.'s (was Campbell et al.'s) No. 1 L. H. Herndon, Sec. 6, M. E. P. & P. Sur., elev. 1,832 ft. ... Drlg., 2,440 ft.
Garland & Diamond's No. 1 E. D. Glynn, SE cor. Sec. 18, Deaf & Dumb Asylum Lands. ... Rig
Gibson & Johnson's No 1 Largent, C SE Sec. 50, Blk. 149, Dewitt Co. School Land. ... U.R., 6-in., 2,895 ft.
Gillette & Hickey's No. 1 M. E. Young, Tevanio Sur. No. 190 ... S.D., 1,450 ft.
Grisham & Hunter & Wildman's No. 1 Williams, Harrison Co. School Land, elev. 1,732 ft. ... Brown sand 2,620-40 ft.; tested 4 bbls. oil and 3 bbls. water; hole full salt water, 2,860-72 ft; reamed 6-in. to 2,877 ft; drlg., 2,975 ft.
Hutson & Weaver's No. 1 Smith, Sec. 51, Blk. 18, T. & P. Sur. ... S.D. for fuel, 700 ft.
Kirk & Braver's No. 1 J. H. Milsap, Justo Rodriguez Sur., League 357. ... Hole full salt water, 2,403-10 ft; S.D., 2,540 ft.
Manhattan Oil Co.'s No. 1 S. W. King, Sec. 198, Jas. Bartlett Sur. ... S.D. for repairs, 1,550 ft.
Marston Oil Co.'s No. 1 E. Howell, NW cor. SE W ½ of N 400 acres, Sec. 20, Blk. 19, T. & P. Sur. ... Small show oil 2,496 ft; S.D., 2,545 ft.
Marston Oil Co.'s No. 1 J. S. Swan, Robert Spears Sur. No. 280 ... Hole full salt water, 2,390-2,400 ft; and 2,435 ft; drlg., 2,633 ft.
Mid-Continent Petroleum Corp.'s No. 1 H. Evans, NE cor. SE SE Sec. 44, S. P. R. R. Sur. ... Small show oil, 2,831-32 ft; S.D., 3,021 ft; contract completed.
Phillips Pet. Co.'s No. 1 Thornton. ... Six bbls. water, 1,930-45 ft; hole full water, 3,055-58 ft; S.D., 3,088 ft.
Shaw & Rathke and others' No. 1 Bristow, SE SE Sec. 1, J. H. Gibson Sur. ... S.D., 500 ft.
W. G. Stough and others' No. 1 J. P. Willis, J. C. Patterson Sur. No. 2. ... S.D. for pipe, 1,275 ft.
Swensondale Oil Co.'s No. 1 Caton, SW NW Sec. 9, Deaf & Dumb Asylum Lands. ... S.D., 1,655 ft; run, 10-in.
Tomberlin et al's No. 1 Oscar Clapp, CSL SW Sec. 37, Blk. 16, T. & P. Sur. ... Run, 8-in., 1,545 ft.
World Oil Co.'s No. 1 Boyd (was W. H. Lee), 12,700 ft. N and 2,130 ft. E of SW cor., Samuel Jones Sur. No. 266, elev. 1,729 ft. ... T.D., 2,615 ft; S.D.
Kingston et al's (was Zeigler) No. 1 Reeves, C SE SE Sec. 164, B. B. B. & C. Sur. ... S.D., 1,925 ft.

KENT COUNTY

Douglas Oil Co.'s No. 1 Scoggins, Sec. 57, Blk. 7, H. & T. C. Sur. ... S.D., 2,620 ft. for pipe.
Marland Oil Co. and Texon O. & L. Co.'s No. 1 Bliby, Sec. 41, Blk. K, Thompson Sur. ... Location.

KING COUNTY

Gibson & Johnson's No. 1 Burnett est. ... Drlg., 1,800 ft.
Midwest No. 1 Patton. ... Drlg., 1,400 ft.
J. L. Pattison No. 1 Patton. ... Drlg., 2,065 ft.
Phillips Petroleum No. 1. ... Drlg., 2,870 ft.
Sinclair ... Drlg., 1,560 ft.
White Eagle No. 1. ... Drlg., 2,010 ft.

KINNEY COUNTY

Haveline Oil Co.'s No. 1 Weatherbee, Sec. 21, Blk. 5. ... S.D., 4,330 ft.
W. A. Stevens, No. 1 Clamp, Sec. 356, Winters Sur. ... S.D., 805 ft.

KNOX COUNTY

Deep Rock Oil Co.'s No. 1 Jones, CSL Sec. 111, Blk. C, H. & T. C. Sur. ... Hole full of water, 2,850-62 ft; C.O.
Deep Rock Oil Co.'s No. 1 Beavers, CSL Sec. 224, Blk. 44, elev. 1,441 ft. ... T.D., 2,690 ft; C.O.
Deep Rock Oil Co.'s No. 1 Big Four, 1,370 ft. south and 2,590 ft. west of NE cor. Sec. 31, Blk. 4. ... S.D. for 10-in., 1,150 ft.
Humble O. & R. Co.'s No. 1 Goode, 1,940 ft. S and 200 ft. W of NE cor. Sec. 7, H. T. & B. Sur. ... Hole full of water, 1,710-15 ft; drlg. ahead.
The Texas Company's No. 1 J. O. Bowden, Sec. 115, Blk. 45, H. & T. C. Sur. ... Moving in rig.

LOVING COUNTY

Kingwood Oil Co.'s No. 1 T. O. Moore, C NE Sec. 2, Blk. G-25, Pub. Sch. Ld.; elev., 3,120 ft. ... Top salt, 1,210 ft; show gas, 1,600-15 ft; drlg., 1,840 ft.
Owens & Sloan's No. 1 W. D. Johnson, C SE Sec. 20, Blk. 53, T-2, T. & P. Sur. ... S.D., 1,020 ft. in litigation.

LUBBOCK COUNTY

Sam Arnett et al's No. 1 Bowles Ranch, Sec. 21, Blk. 5, G. C. & S. F. Sur. ... Drlg., 550 ft.

LYNN COUNTY

The Hart Oil Corp.'s No. 1 C. O. Edwards, NW NW Sec. 5, Blk. 2, L. & S. V. Sur. ... S.D., 1,400 ft.

MIDLAND COUNTY

Orbit Oil Co.'s No. 1 Moreland, CSE Sec. 17, Blk. 39, T. & P. Sur. T-1-S ... New location.

MITCHELL COUNTY

Robert Thraves' No. 1 C. Way, Sec. 91, Blk. 27, T. & P. T-1-N. ... Drlg., 125 ft.
Paul Teas' No. 1 Ed Strain, Sec. 82, Blk. 97, H. & T. C. Sur. ... T.D., 3,510 ft; plugging back to shoot.
Magnolia Pet. Co.'s No. 1 T. L. McKenney, Sec. 20, Blk. 29, T. & P. Sur. T-1-N ... Drlg., 3,090 ft.
Tex-O-Kan Oil Co. and Robert Thraves' No. 1 W. F. Sanders. ... Rigging up.
B. E. Walter and others' No. 1 J. E. Dollen, NW cor SW Sec. 11, Blk. 27, T. & P. Sur. ... S.D., 3,955 ft.; hole full sulphur water.
J. C. Yancey's No. 1 Saunders, 400 ft. N and 1,700 ft. E of SW cor. Sec. 25, Blk. 25, T. & P. Sur. ... Spudded and S.D.

MOTLEY COUNTY

Chechaco Oil Co.'s (J. W. Pennington et al of Amarillo) No. 1 J. W. Owens, NW cor. Sec. 26, Blk. 4 (15,000-acre solid block) ... Drlg., 2,500 ft.
Explin. Co.'s No. 1 Burleson. ... Spudded.
Explin. Co.'s No. 1 Tillson. ... Spudded.
Wheeler et al's No. 1 C. D. Bird, C NE Sec. 4, Blk. S, Stephens Sur. ... Rig on ground.

NOLAN COUNTY

A. G. Malone et al's No. 1 J. B. Carlyle, Sec. 35, Blk. 23, T. & P. Sur. ... Material on ground.
A. G. Malone et al's No. 1 M. C. McElmurry, Sec. 36, Blk. 20, T. & P. Sur. ... Spudded and S.D; rig blew down.
J. H. Winemiller Corp.'s (was Peters et al's) No. 1 Booth, Sec. 90, Blk. 21, T. & P. Sur. ... S.D., 960 ft. for water.
Thomas & Reynold's No. 1 Allen, C. W. ½ NW Sec. 58, Blk. X, T. & P. Sur. ... Drlg., 3,420 ft; shale.
Herbert Oil Co.'s (was McClesky and others') No. 1 Pepper, SE cor. SW Sec. 29, Blk. 22, T. & P. Sur. ... Rigged up and S.D.

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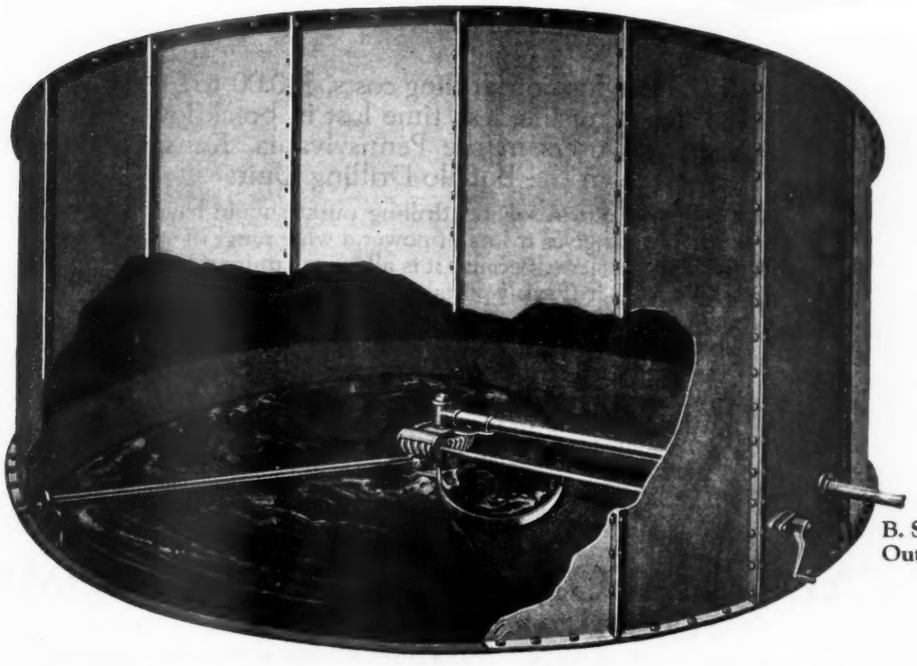

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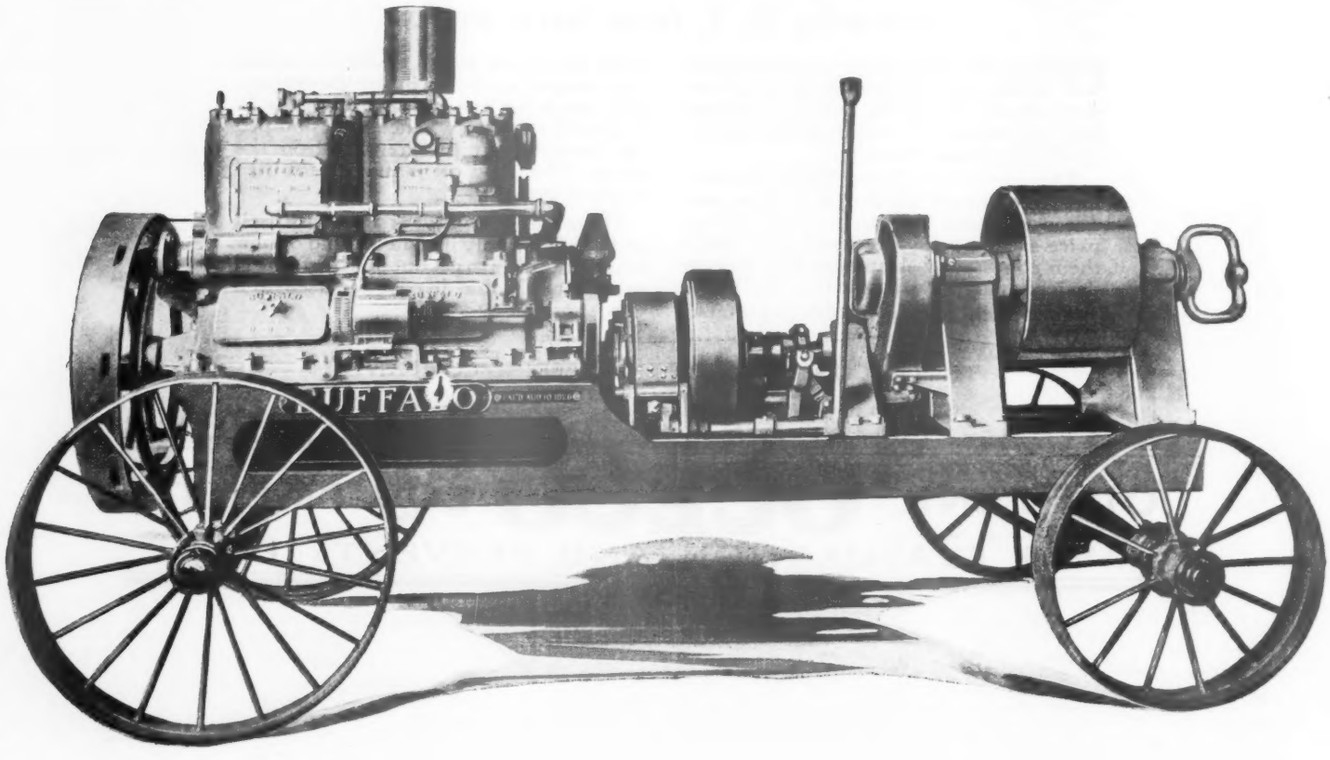

Phillips Pet. Co.'s No. 1 Scott, Sec. 58, Blk. 21, T. & P. Sur. ..... Repairing rig, 3,085 ft.
Zweifel and others' No. 1 Longbotham, C SE Sec. 130, Blk. 1, H. & G. N. Sur. ..... S.D., 1,560 ft; repair rig.

PECOS COUNTY

Geo. Anderson's No. 1 Sherbino Bros., CWL NW, Sec. 43, Blk. C-4, G. C. & S. F. Sur. ..... Location.
Allsman & Bell's No. 1 Pecos River Bed, 178 ft. E and 117 ft. S of NE cor. Sec. 60, Blk. 1 ..... Top salt, 450 ft; T.D., 850 ft; S.R.
Benedum & Trees' No. 1 J. C. Trees, C NW SE SE Sec. 30, Blk. 7, H. & G. Sur., elev. 2,556 ft. ..... T.D., 3,115 ft; flowing sulphur water; fish. for 36 joints 6-in.
Buell and others' No. 1 Batcheler, C N half NE Sec. 89, Blk. OW, G. C. & S. F. Sur., elev. 3,188 ft. ..... Show oil 1,700 ft; flowed sulphur water, 1,775 ft; fish., 2,740 ft.
Buell & Hagan's No. 1 Jasper, 1 mile south and west NE cor. Jasper Co. School Land No. 104 ..... Location.
California Co.'s No. 1 Union Land Co., Sec. 10, Blk. 141, T. & St. L. Sur. ..... Drlg., 1,870 ft.
Cromwell & Kimberlin's No. 1 Blackman., C NW Sec. 24, Blk. 3, H. & T. C. Sur., elev. 2,393 ft. ..... Top salt, 890 ft; small show oil, 1,930 ft; half baller oil, 1,948 ft; S.D., 2,126 ft. flowing sulphur water.
M. C. Dibble & Hale's No. 1 Bonebrake, Sec. 115, Blk. 8, I. & G. N. Sur. ..... Spudded 100 ft; S.D.
Diamond Pet. Co.'s No. 1 Blackstone & Slaughter, Sec. 27, Blk. 2-A ..... Location.
Bob Elmore's No. 1 M. Holmes, Sec. 542, Blk. 1, I. & G. N. Sur. ..... S.D., 100 ft.
Garland & Mott's No. 1 El Paso Cattle Loan Co., C NE Sec. 26, Blk. 126, T. & S. L. Sur. ..... Rig on ground.
Geo. A. Henshaw, Jr.'s No. 1 Snyder, Sec. 29, Blk. 144, T. & St. L. Sur. ..... Location.
Kershaw & Livingston's No. 1 Cannon, SW cor. NE Sec. 54, Blk. A-2, T. C. R. R. Sur. ..... Location.
Mid-Kansas and Transcontinental's No. 2 Yates-B, 1,320 ft N and E of SW cor. Sec. 61 ..... Drlg., 500 ft.
Moutray Oil Co.'s (was Pecos Big 3 Oil Co.'s) No. 1 Robertson, Sec. 28, Blk. 10, H. & G. N. Sur. ..... Spudded and S.D.
Olean Pet. Co.'s No. 1 Arthur Harral, C SE, Sec. 98, Blk. A-2, T. C. R. R. Sur. ..... Location.
Olean Pet. Co.'s No. 1 G. A. Harral, C SW, Sec. 82, Blk. B-3, G. C. & S. F. Sur. ..... Moving in material.
Olean Pet. Co.'s No. 1 Sherbino Bros., C NW, Sec. 31, Blk. C-4, G. C. & S. F. Sur. ..... Moving in material.
Quinby Oil Co.'s No. 1 Townsite, Sec. 1, Blk. 267, Client Addition Sur. Ft. Stockton ..... S.D., 3,440 ft.
Quinby Oil Co.'s No. 2 Bennett, C NW 592, Blk. 105, G. C. & S. F. Sur., elev. 2,560 ft. ..... 200 ft. oil in hole from 1,216 ft; shot 20 qts. 1,208-20 ft; hole full sulphur water, 1,452 ft; T. D., 1,457 ft; shot 130 qts., 1,-353-60 ft; no results, fishing.
Quinby Oil Co.'s No. 1 A. A. Gray, 660 ft. north and 1,320 ft. east SW cor. Sec. 593, Abst. 3,009 ..... Drlg., 680 ft.
Red Bank Oil Co.'s No. 1 Arthur Harral, C SE, Sec. 35, Blk. C-4, G. C. & S. F. Sur. ..... Location.
Red Bank Oil Co.'s No. 1 McKenzie, C N half, Sec. 21, Blk. 126, T. & St. L. Sur. ..... New location.
Seventy-Five Oil Co.'s No. 1 F. A. Perry, C SE NW, Sec. 19, Blk. 178, T. E. R. R. Sur. ..... Drlg., 825 ft.
W. R. Shankel et al's No. 1 I. G. Yates, CSL SW SE SE, Sec. 58, Blk. 1, I. & G. N. Sur. ..... Top salt, 425 ft; S.D., 930 ft.
Simms Oil Co.'s No. 1 A. J. Dowlin, C NE Sec. 12, Blk. 105, G. C. & S. F. Sur. ..... New location.
Texon O. & L. Co.'s No. 2 I. G. Yates ..... Rainbow show, 1,075 ft; show oil, 1,243 ft; S.D., 1,660 ft.
Texon O. & L. Co.'s No. 3 I. G. Yates ..... Location.
Texon O. & L. Co. and Marland Oil Co.'s No. 1 Blakesley, SW cor. Sec. 90, Blk. 11, H. & G. N. Sur. ..... Top salt, 840 ft; drlg., 2,025 ft.
John Dropplemann's No. 1 Mrs. L. Hershenson, Sec. 7, Blk. 51, T. & P. Sur. T-10 ..... Drlg., 2,330 ft.
World Oil Co.'s No. 1 Serf, SW cor. NE Sec. 10, Blk. 130, T. & St. L., elev. 3,425 ft. ..... Location.

PRESIDIO COUNTY

Headlock & Miller's No. 1 Tootle est., Sec. 123, Blk. 3, D. & P. Sur. ..... C.O., 2,550 ft.

REAGAN COUNTY

Henshaw & Camp's No. 1 University, Sec. 14, Blk. 48, University land ..... Location.
Marland Oil Co.'s No. 1 University-Anderson, Sec. 19, Blk. 58, University Land ..... Location.
Tidal Oil Co.'s No. 1 University, NW cor. NE Sec. 20, Blk. 8 ..... Top salt, 1,302 ft; T.D., 2,700 ft; set, 8-in. to shut off water.

REEVES COUNTY

Deep Rock Oil Co.'s No. 1 Caldwell, C SW Sec. 22, Blk. 58, T. & P. Sur., Twp. 8 ..... Drlg., 3,680 ft.
Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Pub. Sch. Ld. ..... Spudded 20 ft. and S.D.
Humble O. & R. Co.'s No. 1-B Kloh, C NE Sec. 47, Blk. 56, T. & P. Sur. T-2-S, elev. 2,781 ft. ..... 900 ft. sulphur water 1,760-1,800 drlg., 2,340 ft.
World Oil Co.'s No. 1 Biggs, C SE Sec. 65, Blk. 112, Pub. Sch. Ld. Sur., elev. 3,068 ft. ..... S.D., 1,610 ft; tools moved to No. 1 Duff.
World Oil Co.'s No. 1 Duff ..... T.D. old hole, 1,400 ft; drlg., 1,-460 ft.

RUNNELS COUNTY

Associated Pet. Co.'s (was Bell & Moore's No. 1 W. W. King, 1,200 ft. W of NE cor. Lge. 14, J. V. Cobrera Sur. ..... Spudded and S.D.
Moore & Bell's No. 1 Ferguson, 2,640 ft. S and 1,320 ft. E of NW cor. F. J. Ford Sur. No. 152 ..... Spudded and S.D
Noble Oil Co.'s No. 1 Simms, Sec. 12, J. J. McHenry Sur. ..... Drlg., 1,240 ft; 15 bbls. salt water per hr.
Lou Ladd et al's (was Frank Yates') No. 1 R. M. McMillan ..... Small show oil and gas 545-62 ft. and 590 ft; drlg., 2,050 ft.
Rhome et al's No. 1 R. M. McMillan, Sec. 532, Domingo Diaz Sur. ..... Hole full water 2,017 ft., T. D. 2,023 ft., to set 6-in. casing.

SCHLEICHER COUNTY

Beavers & Leath and others' No. 1 J. A. and W. T. Whitten, C NW Sec. 35, Blk. 11, T. O. Sur. ..... Spudded and S.D.
Thomas Grey et al's No. 1 Ball Robinson, C NW Sec. 25, Blk. M, G. H. & S. A. Sur. ..... Drlg., 450 ft.

SCURRY COUNTY

Northwest Co.'s No. 1 T. C. Stinson, NE NW SW, Sec. 101, Blk. 97, H. & T. C. Sur. ..... Tested 8 bbls. 1,745 ft; another pay at 3,402-07 ft; bailed 70 bbls. oil in 4 hrs. and bailed dry; drlg., 4,450 ft.

STERLING COUNTY

Inland Oil Co.'s No. 1 Durham, Sec. 12, Blk. T, T. & P. Sur. ..... Location.
J. P. Williams' No. 1 Clark, NE NE SW Sec. 7, Blk. 8, G. C. & S. F. Sur. ..... S.D., 1,089 ft. making 2 bbls. oil; top pay, 1,079 ft.
L. Little's No. 1 Fisher Bros., Sec. 1, Blk. T, T. & P. Sur. ..... Repair engine, 425 ft.
Orr et al's No. 1 Neal Reed, CNL, Sec. 15, Blk. 30, W. & N. W. Sur. ..... Moving in tools.

STONEWALL COUNTY

R. F. Garland & Co.'s (was McCamey & Zoch's) No. 1 J. Ward, C SW Sec. 153, Mrs. Ward Dobbs Sur., 3 miles NW of Aspermont ..... Drlg., 1,780 ft.

TAYLOR COUNTY

A. J. Brown et al.'s No. 1 Henslee, NE cor., Sec. 5, Blk. 4, S. P. R. R. Sur. ..... Set 15-in. at 220 ft; S. D. changing engines; T.D., 350 ft.
Dorning & Perrine's No. 1 J. A. Hammer, C N 100 acres, Sec. 23, Blk. 19, T. & P. Sur.; elev. 1,904 ft. ..... S.D., 455 ft.
Gilbert Johnson's No. 1 C. M. Brown, Sec. 1, Blk. 6, T. & P. Sur. ..... New location.
W. E. Halbert et al's No. 1 Hunt, C SE Sec. 124, Blk. 64, H. & T. C. Sur. ..... S.D., 1,940 ft.
Humble O. & R. Co.'s No. 1 Mattie Jacobs, Sec. 1, Nabors Sur. ..... Drlg., 2,420 ft.

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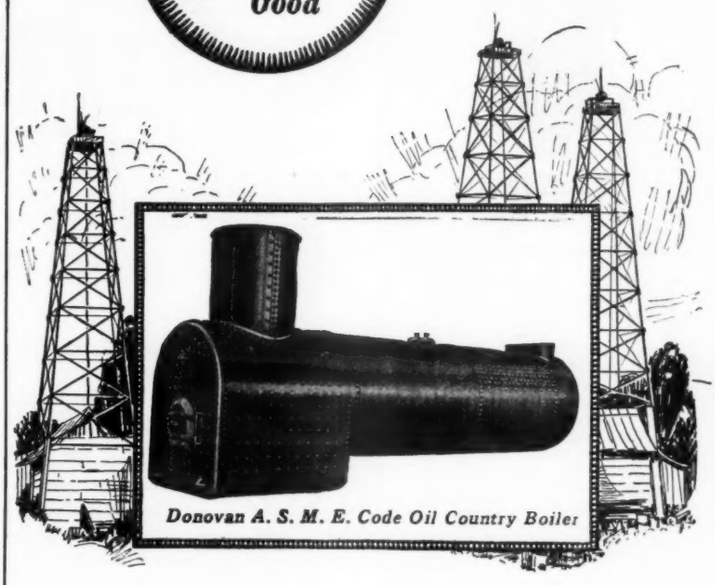

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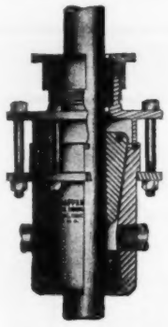

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377 shares stock of Wichita Pipe Line Company, Wichita Falls, Texas.

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Receivers Interstate Gasoline Company
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Wichita Falls, Texas.

Midwest Expltn. Co.'s No. 1 Dora Smith, Jose Gabo. Sur.—Hole full salt water, 3,275-80 ft; S.D. for orders, 3,280 ft; enough gas to burn.

Midwest Expltn. Co.'s No. 1 Toombes, Alex Thompson Sur. No. 37—Hole full water, 2,515-35 ft; fish. lugs, 2,580 ft.

Morrison & Thompson's No. 1 Mrs. Alice Rose, SW cor. NE Sec. 29, Blk. 19, T. & P. Sur.; elev. 1,925 ft.—Fish. casing 2,540 ft.

Owen & Sloan's No. 1 Lattimer, Sec. 14, Blk. 9, T. & P. Sur.—Drlg., 1,450 ft.

Roeser & Pendleton's No. 1 Sam Hutman, C W half NW Sec. 64, Blk. 5, T. & P. Sur.—T.D., 710 ft; run. 12-in.

Sanger O. & R. Co.'s No. 1 Ike Brown NE cor. Sec. 54, Blind Asylum Land—S.D., 1,900 ft. tools in hole.

Sanger O. & R. Co.'s No. 1 Stem—Location.

World Oil Co.'s No. 1 J. R. Griffith SW cor. NE Sec. 32, Blind Asylum Land; elev. 1,747 ft.—C.O., 2,120 ft.

TERRY COUNTY

Kingsland Oil & Potash Co.'s No. 1 Brownsfield, C NW SW SW Sec. 7, Blk. 1-A, E. L. R. R. Sur.—S.D., 1,309 ft.

TOM GREEN COUNTY

Camp's No. 1 H. D. Wilkey, Sec. 4, B. A. L. Sur.—Fish. bailer, 447 ft.

Fitzgerald et al's No. 1 Bennett—Drlg., 120 ft; caving.

Marland Oil Co.'s No. 1 Llano, 3,500 ft. S and 13,000 ft. W of NE cor. Llano Co. Sch. Ld. No. 964—S.D. for 6-in., 3,000 ft.

UPTON COUNTY

Beaty et al's No. 1 J. F. Lane—Top salt 880 ft; sulphur water 2,370 ft; show oil 2,250-65 ft drlg. lime, 3,400 ft.

W. W. Donnelly et al's No. 1 University, C SW Sec. 21, Blk. 4, University—Top salt, 1,560 ft; drlg. sandy shale, 3,700 ft.

Hults et al's No. 1 Giddings, C Sub. Sec. 12, Throckmorton Co. Sch. Lnd.—Top salt, 1,515 ft; S.D., 3,615 ft. for pipe.

Levi Smith and Marland's No. 1 University, C E half, Sec. 17, Blk. 5, University land—Rigging up.

Marland Oil Co.'s No. 3 Burleson, T. C. Jones Sur. No. 100—First pay 2,205 ft; sec. pay 2,295 ft; 2,000 ft. sulphur water 3,390-95 ft; 1,000 ft. sulphur water, 4,135 ft; drlg. gray lime, 4,500 ft.

Marland Oil Co.'s No. 34 Burleson, Sec. 100, T. C. Jones Sur.—S.D., 3,255 ft.

Sartain & Davis' No. 1 Bull, SW NE Sec. 48, Blk. 41, T. & P. Sur.—S.D., 3,523 ft., contract complete.

Simms Oil Co.'s No. 1 B. C. Clark, NE cor. SW, Sec. 5, G. C. & S. F. Sur.; elev. 2,473 ft.—Top salt, 470 ft; top lime, 1,718 ft; sulphur water, 1,834-50 ft; T.D., 1,915 ft; U.R., 6-in.

VAL VERDE COUNTY

A. Blume et al's No. 1 Moore est., Sec. 183, J. Mitchell Sur.—S.D., 3,000 ft.

Curso Williams' No. 1 Holman, NE NE Sec. 5, Blk. N, G. H. & S. A. Sur.—Fishing 2,920 ft.

Douglas Oil Co.'s No. 1 Sellars, C SE Sec. 82, Blk. A, I. & G. N. Sur.—Rig burned 2,940 ft.

East Del Rio Oil Co.'s No. 1 Russell, SE cor. Sec. 183, Del Rio Town Sur.—S.D., 3,142 ft; C.O.

Hiawatha Oil Co.'s No. 1 Sellars, C Sec. 1,031, Blk. A, I. & G. N. Sur.—Hole full salt water, 2,455 ft; straightening hole 2,600 ft.

Magnolia Pet. Co.'s No. 1 Whitehead, Sec. 81, Blk. D, G. C. & S. F. Sur.—S.D. for fish. tools, 190 ft.

Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I. & G. N. Sur.—S.D., 3,900 ft.

O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I. & G. N. Sur.—Flow, sulphur water, 2,300-25 ft; straightening hole, 2,460 ft.

WARD COUNTY

Marland Oil Co.'s No. 1 J. Sealey, C SE Sec. 78, Blk. A, G. M. M. & A. Sur.; elev. 2,820 ft.—Hole full fresh water 970-80 ft; top salt, 1,100 ft; hole full sulphur water, 3,245-48 ft; run 6-in., 3,294 ft; drlg., 3,320 ft.

WINKLER COUNTY

Atlantic O. P. Co.'s No. 1 Hendricks, Sec. 34, Blk. B-5—S.D. for casing, 150 ft.

Champlin Drlg. Co.'s No. 1 C. W. Cowden, C SW Sec. 21, Blk. C-23, Pub. Sch. Ld., elev. 2,889 ft.—Hole full water, 2,385 ft; S.D., 2,425 ft; 6-in. frozen.

Group 1 Humble O. & R. Co.'s No. 1 T. G. Hendricks, C SE Sec. 36, Blk. 27—Drlg., 800 ft.

Humble O. & R. Co.'s No. 1 T. G. Hendricks, S and W NE cor. W half NE Sec. 33, Blk. B-5, Pub. Sch. Ld.—Drlg., 220 ft.

Independent O. & G. Co.'s No. 1 Hendricks, Sec. 42, Blk. B-5, Pub. Sch. Ld.—Top lime 2,720 ft; first gas 2,797 ft., 3,000,000 ft. at 2,815 ft. started spraying oil 2,824 ft; 700 ft. oil in hole, 2,877-83 ft; sec. pay, 3,049-60 ft; shot 60 qts. 3,047-60 ft; water broke in; running tubing.

Independent O. & G. Co.'s No. 1 Hendricks-A—Drlg., 700 ft.

Independent O. & G. Co.'s No. 2 Hendricks-A—Rigging up.

Liano Oil Co.'s No. 1 Scarborough, C Sec. 1, Blk. C-22, Pub. Sch. Ld., elev. 2,921 ft.—Top salt 1,115 ft; hole full water, 1,321 ft; 10-in set, 1,570 ft; set 8-in., 2,680 ft; top pay, 2,990 ft; T.D., 3,094 ft. in sand and shale; S.R., 1,500 ft. oil in hole.

McCullough Oil Co.'s No. 1 Tobe Morton, CEL Sec. 20, Blk. B-12, Pub. Sch. Ld.—Hole full salt water, 1,940 ft; fish., 1,980 ft.

L. D. Ladd, Hill et al's No. 1 Amburgey, C NW Sec. 24, Blk. B-7, Pub. Sch. Ld. Sur., elev. 3,033 ft.—Top salt 1,220 ft; top lime 2,365 ft; T.D., 3,447 ft; rig burned; tools moved away.

R. S. Matthews et al's No. 1 State, C Sec. 7, Blk. A-57, Pub. Sch. Ld. Sur., elev. 3,120 ft.—S.D., 590 ft.

Pure Oil Co.'s No. 1 Hendricks, SW cor. Sec. 41, Blk. B-5, Pub. Sch. Ld.—T.D., 1,552 ft; fish. underreamer.

Skelly Oil Co.'s No. 1 M. M. Leeman, 1,320 ft. east of SW cor. Sec. 21, Blk. 75, elev. 2,951 ft.—Top salt, 1,167 ft; drlg., 4,430 ft. in gray lime.

Southern Crude Oil Pur. Co.'s Ne. 3-C Hendricks, SE cor. NE Sec. 33, Blk. B-5—Top salt, 1,870 ft; T.D., 2,514 ft; standardizing.

Southern Crude Oil Pur. Co.'s No. 4-C Hendricks—Drlg., 1,590 ft.

Southern Crude Oil Pur. Co.'s No. 1 Hendricks-B, SE cor. NE Sec. 44, Blk. 56—Drlg., 2,420 ft.

Southern Crude Oil Pur. Co.'s No. 1-F Hendricks, Sec. 33, Blk. B-5—Rigging up rotary.

Texon O. & L. Co.'s No. 1 Central State Bank SW cor. W half SE Sec. 41, Blk. B-5—Drlg., 600 ft.

White Eagle O. & R. Co.'s (was Gibson & Johnson's) No. 1 R. A. Lock, 1,320 ft. west of NE cor. Sec. 30, Blk. 74, northwest of discovery well—Drlg. red rock, 1,025 ft.

SOUTHWEST TEXAS

(Continued from Page 53)

vey 268, Block 9, located 150 feet to SW cor., is milling out at 1,905 feet.

Cole Gas Field

Cole Petroleum Co.'s No. 43 Benavides, Survey 412, Block 13, located 1,060 feet to east line and 450 feet to south line, is testing through drill stem at 2,531 feet; No. 44 Benavides, Survey 411, Block 5, located 639 feet to north line and 682 feet to east line, is drilling at 2,200 feet; No. 47 Benavides, Survey 412, Block 5, located 1,032 feet to east line and 433 feet to south line, has derrick up.

Rockdale Field—Milam

Birdwell & Pamplin's No. 1 Richards, J. H. Smith Survey, lower central part of county, has derrick up for deep test. Glass Brothers have made location in vicinity of Hicks for their No. 1 well, which is also to be a deep test. Rockdale Development Co.'s No. 3 Lorenz, Thompson Survey, 300 feet east of No. 2-B, is drilling at 700 feet. Rockdale Oil Co.'s No. 23 Lorenz, at 1,370 feet was completed good for 20 bbls. Kent-Middleton's No. 5 Hicks has been spudded in and is drilling. Groneman Brothers' No. 1 King, Houston & Prewitt Survey, in New Salem district in southern part of Milam County, is drilling. McCormich & Noack's No. 1 Taylor Wooten, offset to Rowland test, is location. Noack Oil Co.'s No. 5 Seelik, T. J. Chambers Survey, 300 feet east of No. 3, is drilling; No. 6 Seelke, Chambers Survey, 300 feet southeast of No. 4, is location. Kent & Middleton's No. 1 Ed. Gunn, inside of city limits of Rockdale and one location nearer to business district, is showing gas and spraying oil. Coffield & Hale's No. 1 Shelton is location south of Rockdale. Fritz Fuchs' No. 3 Lon Hudson, offsetting No. 4 Smith, is drilling. Noack & Laning's No. 1 Dymke, William Allen Survey, adjoining city, is coring and looks like a dry hole. Coffield & Hale's No. 1 Alford, north of city on the Brushy Road, has been cemented to drill in.

Reiser Field

Tubbs & Wright's No. 1 Reiser, Survey 1,617, Block 14, has been spudded in and is drilling with test to be shallow. W. O. Wheatley's No. 3 Kruger, Survey 1,570, Block 4, is location, 640 feet to north line and 421 feet to east line.

Mirando Valley Pool—Zapata

The Texas Company's No. 6 Jennings, Cerrito Blanco grant, 7,200 feet to northwest lines and 16,800 feet to southwest lines, is rigging up. Killam-Duggan's No. 1 Cuellar, Cerrito Blanco grant, 150 feet to northwest and southwest lines of northeast 1,172 acres of grant, is drilling at 1,300 feet.

Charco Redondo

Duke and others' No. 3 Martinez, Block 2, Duke-Langford Charco Redondo grant, is location 150 feet to southeast and southwest lines. Harlingen Oil & Gas Co.'s No. 5 Martinez, near Corrigan ranch, is at 975 feet at which depth 2 feet of sand was cored.

Adams Gas Field—Medina

Witherspoon Oil Co.'s No. 2 Nixon, Survey 119, located 2,120 feet south of No. 1, is still running wild at 940 feet. Western Gas & Fuel and Witherspoon Oil Co.'s No. 3 Adams, Block 7, of Adams ranch, is location, 631 feet west of Lange's No. 1 Adams. Western Gas & Fuel Co.-C. E. Lange's No. 1 Chandler, located 1,000 feet east of Henderson & Holden's No. 1 Chandler, in Survey 461, at 934 feet, has set 6⅝-inch casing and is ready to drill in. Witherspoon Oil Co.'s No. 1 Bader, Survey 135, located 150 feet to north line and 400 feet to west line, is drilling at 200 feet. Western Gas & Fuel Co.-C. E. Lange's No. 6 Adams, is location 1,550 feet northwest of No. 5 in Durst Survey.

Luling Field—Caldwell

Magnolia Petroleum Co.'s No. 15 Stair, J. Henry Survey, is location 300 feet northwest of No. 12; No. 8 W. R. Shanklin, H. Cottle Survey, is location 300 feet southeast of No. 7. North & South's No. 1 Kelly is drilling in schist at 6,863 feet; No. 1 Tiller is drilling at 6,200 feet.

Kingsville Field—Kleberg

Humble Oil & Refining Co.'s No. 4 Kleberg trustee, Block 6, Section 40, is location 660 feet to east line and 810 feet to south line; No. 1 Gulf-Dennett, Block 18, Section 38, is location 630 feet to west line and 150 feet to north line; No. 3 Kleberg trustee, Lot 1, Section 40, at 150 feet to NW cor., is drilling at 3,860 feet with 160 feet of sand showing oil on ether test; No. 1 Kleberg trustee, Lot 8, Section 40, located 150 feet to NE cor., is drilling at 3,400 feet; No. 3-A Dennett, NW cor., Lot 3, Section 39, is drilling at 2,740 feet and using rock bit; No. 1 Kivlin, NW cor., Lot 5, Section 39, at 2,660 feet, set 60 feet of strainer and tested salt water and is drilling deeper. Houston Oil Co.-A. C. Erwin's No. 1 Kivlin, Lot 7, Section 50, located 660 feet to SE cor., at 1,037 feet, tested salt water and is drilling deeper. Carter-Walsh's No. 1 Flato, King land, Lot 29, is drilling at 2,100 feet

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All Steel Construction for Heavy Duty. Sizes 10″ to 20″ inclusive

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after testing 3,000,000 feet of gas at 1,887 feet.

Somerset Field—Atascosa and Bexar

Grayburg Oil Co.'s No. 16 Shaw, Survey 278, is location 225 feet to west line and 1,420 feet to south line; No. 29 Caruthers, Survey 377, located 1,000 feet east of No. 26, is drilling; No. 36 Ernest, Survey 366, is location 230 feet to east line and 716 feet to south line. Associated Petroleum Co.'s No. 16 Caruthers, William Caruthers Survey, is location 604 feet south of No. 2; No. 2 Ernest, Survey 266 is location 550 feet west of No. 1; No. 3 Kohler, Survey 49, located 300 feet west of No. 2, is drilling. N. A. Saigh's No. 3 Frees, Sam McCullough headright, 400 feet east of No. 2, at 1,370 feet has been completed and put on the pump.

White Point Area—Nueces and San Patricio

W. L. Pearson's No. 2 Meaney, located 300 feet from south line of tract in Nueces County, has derrick up and is waiting on rig; No. 2 Weil, located west of Corpus Christi, is swabbing at 2,350 feet. W. L. Pearson's No. 1 Moore in San Patricio County and 1 mile north of No. 4 Cage, swabbing at 2,143 feet; No. 6 Cage, Rachall Survey, 1,500 feet south of No. 5, is at 2,360 feet and standing.

Refugio Gas Field—Refugio

Houston Gulf Gas Co.'s No. 6 Lambert, at 1,165 feet blew out with only surface casing in hole, a fair sized gas well and has been turned into line without setting casing; No. 7 Lambert, is location; No. 2 Lambert is drilling at 600 feet; No. 2 Wilson Heard, receiver, has been completed making 25,000,000 feet of gas; Moody's No. 1 Wilson Heard at 1,920 feet tested salt water and is drilling deeper. Houston Oil Co.'s No. A-2 Rooke, Mullen Survey, 677 feet to north line and 700 feet to east line, has set surface casing; Pratt-Hewitt's No. 5 Rooke, at 2,400 feet is rigging up over old hole to complete or drill deeper; No. 10 Fannie Heard, 592 feet northeast of No. 9, at 2,020 feet has set casing to drill in. William F. Morgan's No. 1 S. J. Ryals, in center of field, is drilling at 1,000 feet; No. 2 Rose Rogers, northeast of No. 1 and half mile from production, is at 2,440 feet and ready to complete.

OKLAHOMA FIELDS

(Continued from Page 46)

NE, Section 8-18-4. Roxana Petroleum Corp.'s No. 1 Stover, SW cor. Section 13-19-4, Ingalls Pool, was drilled to 3,870 feet and plugged back to sand at 3,714-31 feet and completed for 8 bbls.

Pawnee County

George Baker made location for No. 1 Easly, SE cor. SW SW, Section 3-20-6. C. H. Burton's No. 1, SE cor. NW NW, Section 18-21-8, drilled to 2,750 feet and plugged back to sand at 2,030-50 feet and after a shot of 120 quarts it made 10 bbls. Continental Oil Co.'s No. 2 Makin, SW cor. NE SE, Section 32-20-5, had sand at 2,808-35 feet, drilled to 2,845 feet and shot with 90 quarts and is producing 80 bbls. George Baker's No. 1 Cave, NE cor. NW NW, Section 10-20-6, was completed for 7,000,000 feet of gas in sand at 3,075-96 feet.

Tulsa County

Hivick and others' No. 3 Unallotted, NW cor. SW NW NE, Section 4-19-10, is spudding. Jolly & Ogg have the machine on the ground for No. 1 Roland, SE cor. NW SE, Section 5-16-13.

Holmes and others' No. 2 Storm, SE cor. Section 25-19-10, has been abandoned at 2,554 feet. C. G. Tibbens' No. 2 Gregory, SE cor. SW, Section 14-18-12, was completed for 3,000,000 feet of gas in sand at 1,560-62 feet. Welch and others' No. 1-A Berryhill, NE cor. SE SE, Section 18-17-13, drilled to 2,475 feet in the Wilcox sand and then plugged back to 740-45 feet and completed for 2,000,000 feet of gas.

Stephens County

Amerada Petroleum Corp. is moving in tools at No. 1 Hanson, NE cor. SE SW, Section 12-1s-4w. Humble Oil & Refining Co. is building the rig for No. 1 Peddycoart, NE cor. Section 25-1s-4w. Medlin and others' No. 2 Burke, NW cor. NE SE, Section 34-1s-8w, is drilling at 700 feet.

Margay Oil Corp.'s No. 2 Reeder, SE cor. NE SE, Section 12-1s-9w, has been abandoned at 2,250 feet. Magnolia Petroleum Co.'s No. 5 Johnson, SE cor. NE, Section 24-1s-9w, has sand at 2,290-93 feet from which it is making 500,000 feet of gas. No. 17 Kagay, NE cor. SW, Section 34-1s-8w, is producing 60 bbls. from sand at 1,720-26 feet.

Pontotoc County

Homaokla Oil Co. is building the rig for No. 2 Harjo, SW cor. SE SE, Section 17-5-8. W. R. Ramsey's No. 1 Warfle, NW cor. NE NE, Section 20-5-8, is a rig being built.

Hughes County

Berry Petroleum Co.'s No. 5 Alexander, NE cor. SW NW SE, Section 4-9-9, is pumping 10 bbls. oil and 40 bbls. water from sand at 3,314-17 feet. Roxana Petroleum Corp.'s No. 2 Powell, NE cor. NW NE, Section 35-9-9, is dry and abandoned at 3,450 feet after missing the sand.

Pottawatomie County

W. B. Pine has the rig on the ground for No. 1 Hamlin, NE cor. SE SE, Section 27-9-4. Magnolia Petroleum Co. has the rig up for No. 1 Hathcock, NE cor. SW, Section 11-7-4. No. 2 Bryant, SE cor. SW NW, Section 9-9-5, Earlsboro Pool, had an initial production of 3,589 bbls. from the Wilcox sand at 4,277-84 feet.

Seminole Pool

Midland Oil Co. made location for No. 1 Harjoche, SW cor. SE, Section 34-10-6, Searight Pool. Gypsy Oil Co. made location for No. 1 Bruner, NW cor. NE, Section 10-9-5, Earlsboro Pool. Magnolia Petroleum Co.'s No. 4 Sparks, NW cor. SW SW, Section 11-9-5, is being deepened, the total depth is now being 4,313½ feet and it made 2,541 bbls. in nine hours. Sinclair Oil & Gas Co. made location for No. 1 Hollins, SW cor. NE NW, Section 12-9-5. Amerada Petroleum Corp. has the rig on the ground for No. 1 Gross, SE cor. NW, Section 24-9-5. Pure Oil Co. has the rig on the ground for No. 3 Aldridge, SW cor. SE NW, Section 3-9-6, Seminole Pool. Sinclair Oil & Gas Co. is building the rig for No. 3 Polly, SE cor. SW NW, Section 3-9-6. Phillips Petroleum Co. has made location for No. 6 Strothers, NW cor. SW SE, Section 27-9-6. Pure Oil Co. made location for No. 6 Strothers "B," SE cor. SW NW, Section 36-9-6. Location for No. 7 Strothers "B" was made NE cor. SW NW, Section 36-9-6, and the location for No. 8 Strothers "B," was made SE cor. NW NW, Section 36-9-6. Indian Territory Illuminating Oil Co. is building the rig for No. 2 Lizzie, SE cor. SW NW, Section 11-8-6, Bowlegs Pool. Pure Oil Co. has the rig on the ground for No. 6 Strothers "D," NE cor. SE SW, Section 11-8-6. The rig has also been moved out for No. 7 Strothers "D," SE cor. SW, Section 11-8-6. Sinclair Oil & Gas Co. has the rig on the ground for No. 5 Ellen, NE cor. NW SW, Section 11-8-6. The cellar has been dug for No. 6 Ellen, NE cor. NE SW, Section 11-8-6. Pure Oil Co. has moved the rig out for No. 8 Strothers "D," NE cor. NW, Section 14-8-6. The Texas Company made location for No. 10 Reed, NE cor. SE NE, Section 14-8-6, and is building the rig for No. 11 Reed, NW cor. NE, Section 14-8-6.

McMann Oil Co.'s No. 1 Thompson, NE cor. SE SW, Section 33-11-8, is swabbing 157 bbls. from the Wilcox sand at 4,161-98 feet after being shot with 30, 60 and 100 quarts. Magnolia Petroleum Co.'s No. 3 Simpson, NE cor. SW SE, Section 10-9-5, Earlsboro Pool, had an initial production of 357 bbls. from the Earlsboro sand at 3,542-57 feet. Carter Oil Co.'s No. 3 Payne, NE cor. NW SE, Section 12-9-5, a location, has been abandoned. Amerada Petroleum Corp.'s No. 4 Anderson, SW cor. NW, Section 15-9-5, made 591 bbls. on air from the second Wilcox sand at 4,330-50 feet. Sinclair Oil & Gas Co.'s No. 1 V. Jones, NW cor. SW SW, Section 15-9-5, lost the hole at 3,554 feet and was abandoned. Carter Oil Co.'s No. 1 Kiker, SW cor. NW SW, Section 2-9-6, is pumping 45 bbls. from stray sand at 3,529-70 feet.

Carter Oil Co.'s No. 5 Frazier, SW cor. NE NW, Section 3-9-6, Searight Pool, flowed 1,000 bbls. from the Hunton lime and was drilled on to the Wilcox sand at 4,405-32 feet and made 2,600 bbls. Roxana Petroleum Corp.'s No. 1 Strothers, NW cor. SW NE, Section 3-9-6, has been completed in the Hunton lime at 4,080-4,164 feet for 510 bbls. Sinclair Oil & Gas Co.'s No. 2 Polly, NE cor. SW NW, Section 3-9-6, has been completed for 600 bbls. in the Hunton lime at 4,057-4,155 feet. Kingwood Oil Co. and Roxana Petroleum Corp.'s No. 6 Harjo, NW cor. SE SE, Section 22-9-6, Seminole Pool, lost the hole at 4,136 feet and was abandoned. Carter Oil Co.'s No. 5 Lukes, NE cor. SE NE, Section 27-9-6, was shot with 20 quarts in the Wilcox sand at 4,070-92 feet and made 1,025 bbls. No. 6 Lukes, SW cor. SE NE, Section 27-9-6, made 1,200 bbls. on air after a shot of 40 quarts in the Wilcox sand at 4,085-4,112 feet. T. B. Slick's No. 3 Cudjo, NE cor. SE SW, Section 35-9-6, had the Wilcox sand at 4,160-75 feet and swabbed 250 bbls. Pure Oil Co.'s No. 2 Strothers "B," NE cor. NW NW, Section 36-9-6, had Wilcox sand at 4,236-48 feet and after a shot of 10 quarts made 860 bbls. on air. No. 3 Strothers "B," SW cor. NW NW, Section 36-9-6, was shot with 20 quarts in the Wilcox sand at 4,089-4,124 feet and produced 2,789 bbls. on air. Marland Oil Co. and Mid-Continent Petroleum Co.'s No. 1 M. Bull, SW cor. NW, Section 16-9-7, has been plugged and abandoned at 4,416 feet. Jarvis & Holmes' No. 1 Lowery, NE cor. SW NE, Section 7-9-8, swabbed 128 bbls. after being shot with 60 quarts in sand at 3,286-3,328 feet. Atlantic Oil Producing Co's No. 1 Taylor, SW cor. SE SE, Section 10-8-6, had top of the second Wilcox sand at 4,015 feet, drilled to 4,028 feet and made 3,174 bbls. when put on air.

Tidal Oil Co.'s No. 1 Harjoche, SE cor. NE SW, Section 10-8-6, Bowlegs Pool, was shot with 10 quarts in the Wilcox sand at 4,007-19 feet and made 2,260 bbls. Carter Oil Co.'s No. 1 Harjoche, SW cor. NW, Section 14-8-6, made 2,495 bbls. on air after it was shot with 50 quarts in the Wilcox sand at 4,080-4,152 feet. Empire Gas & Fuel Co.'s No. 2 Lacey, NW cor. SW, Section 14-8-6, produced 2,312 bbls. the first 24 hours from the second Wilcox sand at 4,127-37 feet. Pure Oil Co.'s No. 5 Reed, SE cor. SW SE, Section 14-8-6, had Wilcox sand at 4,179-4,220 feet, was shot with 20 quarts and produced 3,426 bbls. on air. Carter Oil Co.'s No. 1 Walker, NE cor. SW SE, Section 15-8-6, an old well deepened, had the second Wilcox sand at 4,120-22 feet and produced 2,910 bbls. Gypsy Oil Co.'s No. 2 Walker, NE cor. NW SE, Section 15-8-6, made 1,170 bbls. from the Wilcox sand at 4,142-56 feet. Indian Territory Illuminating Oil Co.'s No. 3 Wilmouth, SW cor. NE NE, Section 15-8-6, produced 2,120 bbls. from the second Wilcox sand at 4,228-36 feet. Minnehoma Oil Co.'s No. 2 Bowlegs, NW cor. SW SW, Section 15-8-6, had Wilcox sand at 4,238-78 feet and swabbed 820 bbls. Atlantic Oil Producing Co.'s No. 2 Jones, NW cor. SE SE, Section 16-8-6, has been abandoned at 1,272 feet. Roxana Petroleum Corp.'s No. 1 Taylor, SE cor. NE, Section 16-8-6, made 584 bbls. from the Wilcox sand at 4,213-84 feet. Mid-Continent Petroleum Corp.'s No. 1 Hutka, NW cor. NE NW, Section 24-8-6, had Wilcox sand at 4,181-95 feet and made 1,755 bbls. Gypsy Oil Co.'s No. 1 Brown, SW cor. SE, Section 33-8-6, topped the Wilcox sand at 4,457 feet, drilled to 4,458 feet and made an initial of 987 bbls. Magnolia Petroleum Co.'s No. 1 R. Jackson, NE cor. Section 26-8-7, is dry and abandoned at 5,215 feet in the Wilcox sand.

Homaokla Oil Co.'s No. 2-A Brown, NE cor. SW SE, Section 29-8-8, is swabbing 185 bbls. from the Hunton lime at 3,867-3,993 feet. Magnolia Petroleum Co.'s No. 1 Harjo, NE cor. SE, Section 29-7-8, has been abandoned at 4,268 feet in the Viola lime. The Prairie Oil & Gas Co.'s No. 8 Strothers, SW cor. SE SE, Section 27-9-6, was completed for 450 bbls. in the Wilcox sand at 4,180-4,207 feet. No. 1 Harbison, SE cor. NE SW, Section 21-8-6, has been abandoned at 4,546 feet in the Wilcox sand. No. 1 Mason, NW cor. SW, Section 36-9-6, Seminole Pool, was shot with 10 quarts and made 1,585 bbls. from the Wilcox sand at 4,085-75 feet.

LOUISIANA-ARKANSAS

(Continued from Page 50)

Section 8-18-15, main El Dorado Pool, is drilling at 1,950 feet.

Ouachita County

F. A. Book's No. 3 Johnette, Section 33-15-16, Louann district of Ouachita County, is fishing for the liner. Depth of this test is 1,980 feet. Middlesex Oil Co.'s No. 5 Shirey, Section 36-15-17, is waiting on a standard rig. It has 300 feet of oil in the hole from broken sand at 2,283-2,305 feet.

In the Norphlet Field, Exchange Oil Co.'s No. 2 Berg, Section 4-15-15, was shut down the past week because of high water. It had reached a depth of 2,342 feet. The same company is rebuilding the derrick at No. 4 Berg, same section. This test, formerly completed at a depth of 2,359 feet, flowing 2,000 bbls., is to be plugged back for a test of the Nacatoch sand. No. 6 Berg, same section, is waiting on a standard rig at 2,368 feet, where it has 600 feet of oil in the hole from 7 feet of sand. The 12½-inch casing has been set in No. 7 Berg at 184 feet. Exchange Oil Co.'s No. 3 Umstead in this section also has 300 feet of oil standing in the hole from sand at 2,357-64 feet and is waiting on a standard rig. In Section 8-16-15, Imperial Oil & Gas Producing Co.'s No. 9 McClanahan is making an estimated 3,000,000 feet of gas with a spray of salt water from sand at 2,640-42 feet, where the casing was milled through. Total depth of the hole is 2,713 feet. Marine Oil Co. is making arrangements to deepen No. 8 Hays, Section 4-16-15. This test formerly was completed at a depth of 2,622 feet making 5,000,000 feet of gas. Another test to be deepened is Roxana Petroleum Corp.'s No. 1 Reynolds, Section 27-15-15. This formerly was abandoned at a depth of 2,612 feet. Sunny Jim Oil Co. is drilling at 2,225 feet in No. 12 Berry, Section 33, after milling out casing at 2,213 feet.

In the Stephens Pool, Magnolia Petroleum Co. is drilling white sand at 2,456 feet in No. 1 Morgan, Section 7-15-19.

Nevada County

J. J. O'Brien has cemented 6-inch casing at 1,149 feet in No. 1 Moss, Section 1-14-21. Ozan Oil Co.'s No. 6 Ellis, Section 2-14-21, still is waiting on a standard rig, having 6 feet of sand at a total depth of 1,155 feet.

HUMBLE'S HEALTH CAMPAIGN

FORT WORTH, Tex., June 4.—In the interest of health and efficiency of their employes, the Humble Oil & Refining Co. requires each employe to undergo an occasional medical examination. At present. Humble company physicians are in the midst of a campaign to have all employes vaccinated with typhoid serum. The serum is said to immunize the patient against typhoid fever for two years.

A. P. I. COMMITTEE TO MEET

The American Petroleum Institute's technical relations committee will hold a meeting at French Lick, Ind., June 20-22 to work out plans for the institute's policy in relation to technical and scientific work and to other technical societies. E. W. Isom, Sinclair Consolidated Oil Corp., heads the committee.

CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces an open competitive examination for senior petroleum engineer, application to be on file at Washington, D. C., not later than July 5.

ELECTION OF OFFICERS

At the annual meeting of the Pennsylvania Engineering Works, W. H. Lewis was re-elected president, W. S. Wheeler, vice president and treasurer, and S. B. Cleal, secretary.

CARBON BLACK AN IMPORTANT INDUSTRY

(Continued from Page 70)

Figure 3) show that approximately three-quarters of the total deliveries was consigned to domestic consumers and one-quarter was exported to foreign countries.

Exports of carbon black have assumed considerable importance since 1923, when production first greatly exceeded demand. The following tables represent the approximate amounts of carbon black exported during the period 1919-1926, with the 1925 exports divided as to destination.

Exports of Carbon Black (Pounds)

Year	Exports (Approx.)	Value (Approx.)	Average Price (Cents)
1919	.....	$1,500,000	....
1920	.....	2,200,000	....
1921	.....	1,400,000	....
1922	15,000,000	1,750,000	11.7
1923	27,000,000	4,400,000	16.3
1924	32,500,000	3,200,000	9.8
1925	43,183,000	3,556,000	8.2
1926	39,210,000	3,622,000	9.2

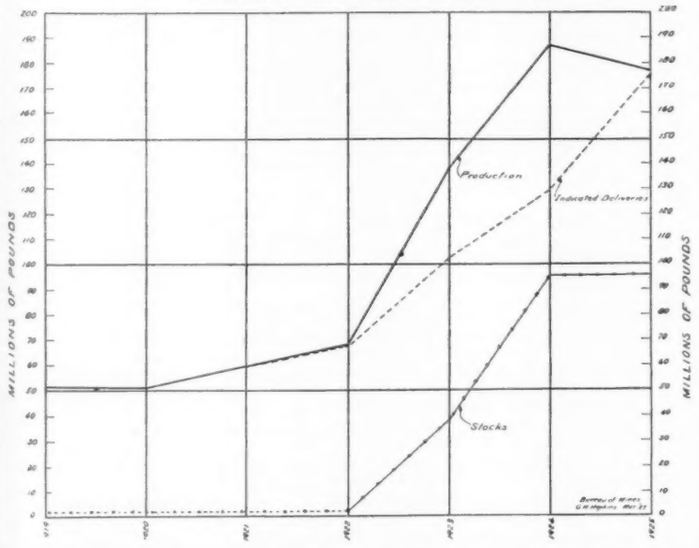
Exports of Carbon Black in 1925 by Countries (Pounds)

Country—	Quantity	Value
France	6,922,948	$ 573,197
Germany	7,365,262	670,978
Italy	1,964,340	166,520
Netherlands	662,287	64,645
United Kingdom	14,903,704	1,221,119
Canada	5,951,976	369,588
China	586,678	53,460
Japan	1,572,312	126,459
Australia	1,177,956	102,115
Other	2,075,172	207,688
Total	43,182,635	$3,555,769

Movement to the Trade

The movement of carbon black to the trade is graphically illustrated in Figure 3. The figures given are only approximate since it was not practicable to avoid some duplications and omissions. The major portion of the carbon black deliveries was handled by brokers or by "producer-brokers" in their capacity as brokers; in fact, the companies which are strictly producers handled a total of only 18,996,000 pounds, or 11 per cent of the total directly to the trade. Very little carbon black was resold more than once; that is, sales between brokers (excluding "producer-brokers" or companies which both produce and buy carbon black) appear to be of less importance than in the case of many other commodities.

Figure 1
CARBON BLACK
PRODUCTION, STOCKS, and DELIVERIES



As previously stated, carbon black finds its chief use as a filler in rubber, its finely divided state greatly reducing oxidation and increasing the tensile strength. About two-thirds of the total output of carbon black is eventually used in rubber. Carbon black is not considered as indispensable in rubber as in printing ink, and in times of high prices it has often been supplanted by zinc oxide or graphite. However, it is at present of great importance to the tire trade, which uses roughly 85 per cent of all the rubber consumed in this country. The modern automobile tire, deep black in color and with great resistance to abrasion, is a vast improvement over the tire of 20 years ago, which was built on the lines of the present day inner tube. Although the greater part of the improvement in quality of tires has been due to better manufacturing methods, some part of the advance can be credited to the use of carbon black, which comprises about 10 per cent of the weight of the average tire.

Production and Prices

Although the link between the rubber manufacturers and the carbon black producers is necessarily close, sentiment plays no greater part in their business relations than between any producer and the consumer of his product. When consumption exceeded production in 1922, for example, and prices were high, the rubber manufacturers naturally complained of the price, demanded more production and held off buying. The production was supplied, prices fell (see Figure 2), and the rubber manufacturers made new contracts. It is rumored that some of the carbon black producers attempted to prevent the price declines of 1923 and 1924 by regulating or holding back their stocks, but little came of this move, since, as has been repeatedly pointed out, any attempt to stabilize prices will not be effective without a regulation of production.

The rubber industry is the shock absorber in the carbon black industry, normally requiring the major portion of the output and able to absorb a larger percentage in times of very low prices. The use of carbon black in ink and paint is limited by conservative growth in output of these commodities. Rubber, therefore, is the future hope of the carbon black producer who should not fail to keep posted on such factors as automobile output, tire design, crude rubber trade restrictions, and synthetic rubber, all of which have an influence on rubber and hence on carbon black consumption. The growth in the consumption of rubber for the period 1919-1925 is expressed in the following table:

Rubber Consumption in the United States, 1919-1925*
(Figures in pounds.)

Year	Automobile Consumption	Other	Total
1919	400,960,000	79,520,000	480,480,000
1920	462,784,000	91,168,000	553,952,000
1921	488,320,000	77,056,000	565,376,000
1922	588,672,000	110,656,000	699,328,000
1923	562,240,000	120,960,000	683,200,000
1924	640,000,000	112,260,000	752,260,000
1925	750,000,000	127,427,000	877,427,000

*Partly estimates.

Use in Rubber

Previous to the overproduction of carbon black in 1923 and 1924, zinc oxide was oftentimes used as a substitute in rubber. The decline in carbon black prices in 1924, to about the level of zinc oxide, mitigated against the use of the latter since it does not possess the volume,

Six 150-ton Brine Coolers with wooden lagging. Exchangers are shown in the background.

A 900-ton Carbondale Absorption Machine installation at the Sinclair Refining Co., East Chicago, Ind.

Sinclair standards and Carmaco

To maintain the Sinclair standard of lubrication requires a refining process that is dependable in every detail.

The distillate "thruput" is chilled uniformly, with minimum friction losses, by the counter current principle. The required temperatures are maintained by the use of reliable refrigeration.

Carbondale Refrigerating Machinery has, for years, been satisfying these demands, not only in the production of Sinclair Oils, but also in most of the other leading refineries. Some installations are still giving dependable service after more than 30 years of usefulness.

CARBONDALE MACHINE COMPANY
Carbondale, Pa.
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Carbondale Products

CARMACO COMPRESSION SYSTEM USING FEATHER VALVE (Reg. U. S. Pat. Off.) COMPRESSOR

CARMACO EXHAUST STEAM ABSORPTION SYSTEM

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AUTOMATIC SELF-CONTAINED REFRIGERATORING UNITS

REFRIGERATING EQUIPMENT FOR OIL REFINERIES

SPIRA-FLO CONDENSERS

—o—

Ammonia Compressors
Condensers
Brine Coolers
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Exchangers
Chilling Machines
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Sweating Pans
Agitators
Air Eliminators
Dehydrators
Ice Can Fillers
Forged Steel Fittings and Valves
Accessories for refrigeration systems of every type.

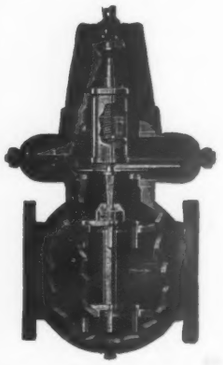
Carbondale Refrigeration for Refiners

CARMACO

DAVIS "Supersensitive" Relief Valve was designed especially for one purpose—accurate low pressure gas relief. It was not intended for some other duty and appropriated for this service. "Supersensitive" is a registered trade name that can only be applied to this valve. When conditions demand unusual service from the relief valve, experienced operators have learned to depend upon the Davis.

G. M. DAVIS REGULATOR COMPANY
409 Milwaukee Avenue
CHICAGO, ILLINOIS

WESTCOTT & GREIS, *Inc.*
Sales Engineers
TULSA LOS ANGELES DALLAS



Davis "Supersensitive" Relief Valve serves as a relief on separating tanks and is also adaptable to closed storage tanks to prevent the accumulation of pressure and as a sensitive relief on vapor recovery systems.

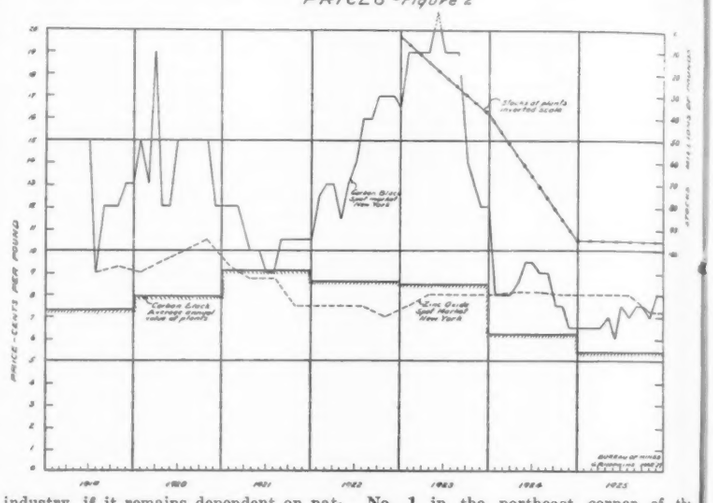
DAVIS VALVE
STEAM SAVERS SINCE 1875
SPECIALTIES

O&GJ 6-9 Gray

pound for pound, of carbon black. The use of zinc oxide in rubber in place of carbon black has evidently been overestimated for, as shown in Figure 2, the price of the former has fluctuated but little as compared to carbon black. This indicates that the price of zinc oxide is governed by its use in paints, etc., rather than in rubber.

The carbon black industry has been the objective of considerable proposed and enacted legislation, with the purpose of restricting its gas supply on the basis of alleged wasteful use. The carbon black

PRICES - Figure 2


PRICE - CENTS PER POUND
Carbon Black Average annual value of plants
Zinc Oxide Lead Method New York
BUREAU OF MINES & GEOLOGICAL SURVEY

industry, if it remains dependent on natural gas, will probably always be a westward-moving industry but with three bright "stars" to follow—(1) the presence of much unutilized gas in Texas and the Rocky Mountain district, (2) the possibility that technology will reveal means to obtain higher yields without loss in quality, and (3) the realization of the great utility of its product.

CENTRAL WEST FIELDS

(Continued from Page 62)

in the southeast corner of the Polly Barney farm, in the northwest quarter of Section 1, and in the heart of the Allendale Field, only produced 16 bbls. initially. Sand was topped at 1,371 feet and drilled 19 feet in the sand. Several miles south of Allendale, toward Patton, Phipps & Blosser's test, 600 feet from the north line and 250 feet from the east line of the J. B. Clark farm, in the northwest quarter of Section 24, pumped 5 bbls. from the Bridgeport sand which was found at 1,040 feet and then drilled 40 feet in the sand. Phipps & Blosser are drilling No. 1 on the Edward Armstrong farm, same section.

In the same township, C. E. Bothwell is drilling No. 4 Jesse Cisil farm, Section 2; Breen Oil Co. is drilling No. 2 L. G. Stillwell, Section 2; Mayhugh and others, No. 14 Kogan heirs' farm, Section 2; Joe S. Young, Jr., and others, No. 1 John Barney heirs' farm, and No. 5 on the E. Alka heirs' farm, both in Section 1, while Miller & Karns are drilling a test on the H. A. Price heirs' farm, Section 14.

In Friendsville Township, Wabash County, the Wood Farm Oil Co. is drilling No. 4 J. O. Wood farm, just east of Friendsville. Joe S. Young, Jr., and others are drilling No. 3 J. W. Price farm, and Miller & Lengelsen, No. 1 William Lentz farm, all in Section 19.

In Bridgeport Township, Lawrence County, the Big Four Oil & Gas Co. is drilling No. 1 on the William Umfleet farm, Section 9, and in Dennison Township, the Ohio Oil Co. has a rig in for No. 22 on the Laura Gillespie farm, Section 27, and is drilling No. 17 on the W. E. Robbins No. 2 farm, same section.

Central Ohio

Three completions were reported from the Central Ohio Field proper, one a gas well, one dry hole and a 10-bbl. producer. But one new location was staked out for a well, while nine new ones started drilling.

The producer was drilled by the Kemrow company in the northeast corner of the Mary A. Beeler 42 acres, Lot 21, Monroe Township, Holmes County.

Empire Gas & Fuel Co.'s test, in the northeast corner of the Charles C. Wilbur 104 acres, Lot 36, Medina Township, Medina County, proved a rank failure. In Liverpool Township, same county, the Logan Gas Co. is drilling No. 1 in the southeast corner of the George Zaharias 129 acres, Section 1 and No. 1 in the northeast corner of the James A. Wallace 102 acres, Section 20. In Hinkley Township, same county, Hulse and Kundtz are drilling a wildcat in the northeast corner of the Laura Carter 62-acre farm, Lot 31.

The Ohio Fuel Gas Co. is drilling No. 1 in the center of the east and west lines and 300 feet from the south line of the G. W. Weitzel 49 acres, Lot 16, Columbia Township, Lorain County, and also drilling a test 950 feet from the south line and 300 feet from the east line of the W. A. Law 20 acres, Lot 70, Grafton Township, same county.

In Holmes County, Killbuck Township, the Kemrow company is starting a second test in the northeast corner of the William Sandles 160 acres, Lot 21. In Prairie Township, the East Ohio Gas Co. is drilling No. 7 well, 800 feet from the south line and 300 feet from the east line of the A. J. Baker 79 acres, Section 18. Same company is drilling No. 1 in the northeast corner of the G. W. and G. Garver 36 acres, Lot 17, Richland Township.

Cleveland Field

In the Cleveland Field, in Dover Township, Cuyahoga County, the Logan Gas Co. has an average-sized well in a second test in the northwest corner of the Demott Winslow 40 acres, Lot 26. Same company is starting a test in the northeast corner of the Don B. Hall 29 acres, Lot 22, Olmstead Township, same county.

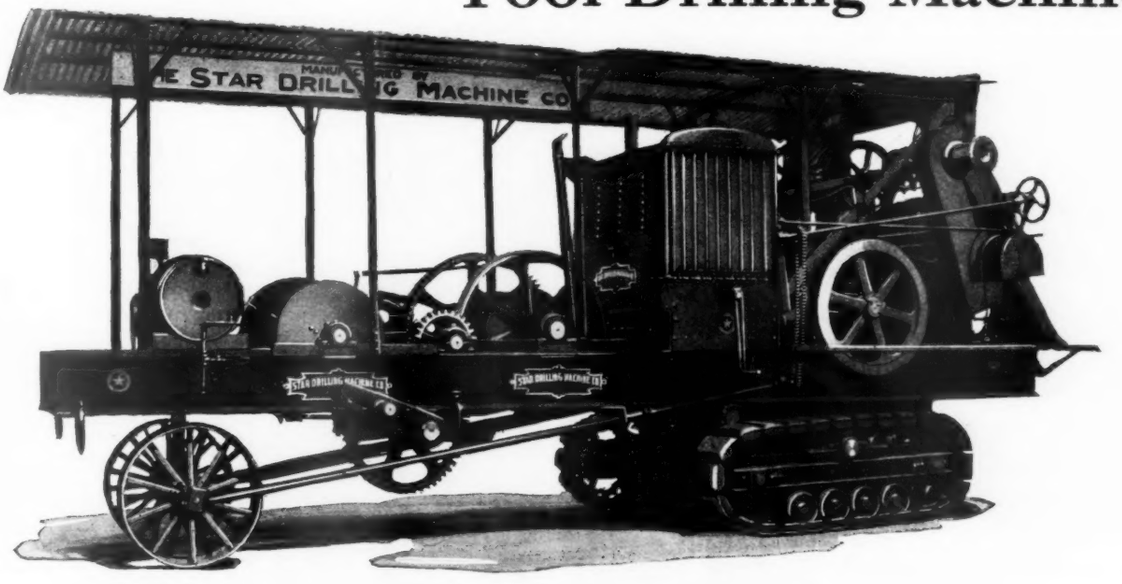
The East Ohio Gas Co. is drilling a second well, 880 feet from the east line of the M. J. Nyhart 122 acres, Section 1, Monroe Township, Coshocton County, and only 20 feet south of the township line. The Ohio Fuel Gas Co. made a location for a test 330 feet from the north line and 660 feet from the east line of the Sam Miller 20 acres, Section 2.

The Logan Gas Co. is drilling No. 3 in the southeast corner of the S. A. Wilson 55 acres, in Carthage Township, Athens County.

East Ohio Gas Co. is starting a test in the northwest corner of the Stephen R. Williams 100-acre farm, Lot 11, Monroe Township, Holmes County. Empire Gas & Fuel Co. made a location for a second well on the Degle heirs' 30 acres, Lot 25, Hardy Township. In the same township, the East Ohio Oil Co. is drilling No. 2 in the northeast corner of the Harriett McCullough 100 acres, Lot 20; No. 4, in the northwest corner

Here It Is—

Star Builds First Portable Combination Rotary and Cable Tool Drilling Machine



WE take pride in announcing this new member of the Star family. It is a machine that the steam driller will feel right at home on as it closely follows steam methods . . . levers identical with standard rotary . . . reverse operated without shock.

The Star Combination Rotary and Cable Tool Drilling Machine has a 100 H.P. 4-cylinder engine that will drill to 2500 feet. Besides the advantage of being a combination rotary and cable tool machine, it offers three main reasons for drilling economy—(1) Moves under its own power on tractor wheels. (2) You can back it up to a standard derrick, set end of frame on sill and start threading your blocks. (3) Uses either natural gas or gasoline.

This new Star is being introduced after two years testing in the fields. If desired it can be furnished without cable tool attachment.

Performance data, specifications and prices will be gladly furnished upon request. Fill in and mail the coupon.

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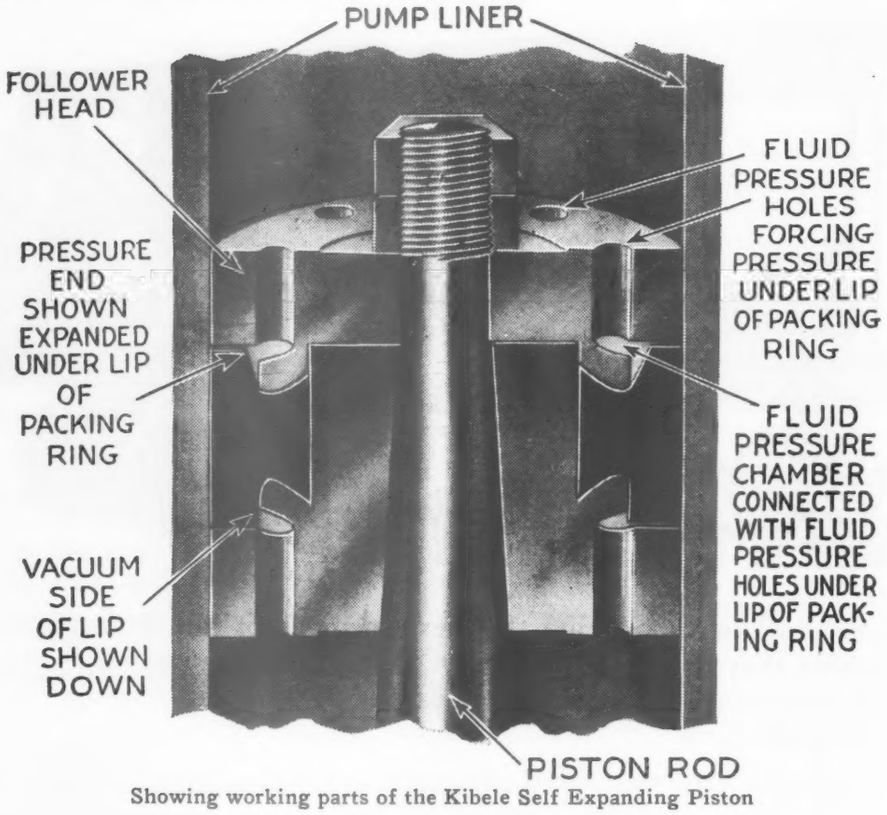
Oil & Gas Journal

More Hole at Less Cost
With Kibele Patented Pistons


PUMP LINER
FOLLOWER HEAD
FLUID PRESSURE HOLES FORCING PRESSURE UNDER LIP OF PACKING RING
PRESSURE END SHOWN EXPANDED UNDER LIP OF PACKING RING
FLUID PRESSURE CHAMBER CONNECTED WITH FLUID PRESSURE HOLES UNDER LIP OF PACKING RING
VACUUM SIDE OF LIP SHOWN DOWN
PISTON ROD

Showing working parts of the Kibele Self Expanding Piston

Why lose valuable time and keep your rig running at a loss while you repack your pumps every few days?

The Kibele Self Expanding and Frictionless Piston will out-wear any other piston manufactured four or five times.

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of the J. E. Miller 146 acres, Lot 15, and No. 5 in the southeast corner of the W. H. Uhl 100 acres, Lot 21. Logan Gas Co. made a location for a test in the northeast corner of the L. S. Sidle 40 acres, Lot 20, Knox Township, same county.

In Columbia Township, Lorain County, the East Ohio Gas Co. made a location for a test in the northwest corner of the Hannah Hudson 8½ acres, Lot 70.

MICHIGAN FIELDS

(Continued from Page 62)

no showing of oil below the Berea sand, to where it will make, possibly a 5-bbl. pumper.

The Fordney Petroleum Co. apparently had a dry hole in the Saginaw sand Saturday, on its location at Hermansau and Madison Streets, Carrollton. Getting the sand at 2,300 feet, the well was about 20 feet in the sand without a showing of oil or gas.

The Sun Oil Co.'s No. 3, on the Dr. D. E. Bradshaw farm, half mile north of the Shattuck Road and west of the Bay road, in the northeast quarter of Section 10, Saginaw Township, reached the top of the Saginaw sand at 2,329 feet, and failed to find a showing at 21 feet in the sand. This well will make a fair producer in the upper Berea sand.

Two Detroit men, one accompanied by his wife, flew to Saginaw Sunday to watch the drilling in of a well in which they are interested, but their reward was no gusher, for the well apparently is only a dry hole. They were Edward Schlee, president, and Andrew Schlee, secretary of the Wayco Oil Co., which operates a chain of Detroit filling stations, and they occupy the same positions in the Wayco Oil Producing Co., which is operating in the Saginaw Field. Mrs. Edward Schlee accompanied her husband, and a pilot made the fourth member of the party. They arrived in the plane owned by the Schlees, and spent most of the day here while the Wayco company's No. 2 Braun well, on Weiss Street, a short distance east of Eddy Street, was being drilled into the Saginaw sand. The top of the Saginaw sand was found at 2,290 feet but failed to make any showing at 20 feet in.

Frank H. Higinbottom, trustee, drilling No. 1 on the Householder farm, in the northwest quarter of Section 12, Carrollton Township, Saginaw County, and northeast of production, failed to find a commercial producer in the Berea sand and is now going to the Saginaw sand. At last reports this well was around 2,000 feet in depth.

Gets Valuable Lease

Signing of a lease by which the Saginaw Prospecting Co. securing the oil rights of the extensive Eddy properties, mostly on the west side, near the Saginaw River, was announced Sunday, says the News-Courier. The property for the most part lies between the Saginaw River and Michigan Avenue, though a small part of it is on the east side of the river. The Prospecting company already is preparing to drill two wells on the property, one along Davenport Street near the Pere Marquette freight house, while the other location is on the east bank of the river on a site formerly occupied by the Saginaw-Bay City Steamship Co. The Davenport Street well has started spudding. It is expected this lease will provide a second source by which the people of Saginaw will benefit indirectly from th oil development through the operation of the C. K. Eddy Family Memorial Fund, established by the will of the late Arthur D. Eddy. This fund, which will eventually be increased to a half of Mr. Eddy's estate, is devoted to charitable, educational and musical purposes and is likely to share in the oil royalties from the development of the properties. The public is also receiving a share of the royalties from development of the city-owned Deindorfer Woods property.

Lands Big Lease

The Sun Oil Co. has secured a lease on all the Saginaw County property of the Pere Marquette Railroad, it is reported. This embraces a large amount of property, some of it located within the limits of the proven Berea Pool, one piece adjoining the city-owned Deindorfer Woods property on which the Saginaw Prospecting Co. first started operations. It was indicated that the Sun Oil Co. will start operations at once upon this property to offset wells already drilled on adjoining holdings.

Late Completions

There was a scarcity of completions in the Saginaw Field during the week, outside of those mentioned above that went to the Saginaw sand.

The J. & S. Development Co.'s No. 1, at Clark Street and Michigan Avenue, topped the Berea sand at 1,810 feet and went 20 feet in the sand, and looks like a 20-bbl. initial producer, which is about the average 24 hours' production of new wells brought in in the area.

The B. & B. Petroleum Co.'s No. 1, on the Pat Sauve farm, northeast of Birch Run, in Birch Run Township, Saginaw County, and southeast of Saginaw, struck top of the Dundee sand at 2,515 feet and top of pay at 2,550 feet, with a nice showing of oil and gas. The well should be completed within a few days and if it proves a commercial producer will cause a lot of drilling to the south and southeast of Saginaw.

Field Notes

Reports not confirmed that a test well drilled by the Muskegon Oil & Gas Co. at Muskegon, struck top of the sand at 1,911 feet and drilled 21 feet in getting a showing of oil, and will be given a shot.

Charles Hunt's test, on the Thomas Holman property in Spaulding Township, Saginaw County, on East Street, about 2½ miles south of Saginaw, is down around 1,800 feet and due to be completed within a few days.

Wicker Brothers are starting a well on their property on the east bank of the Saginaw River, near the foot of Carroll Street.

William M. Bradley & Son started drilling their well on the Henning Sausage Co.'s property, near the foot of Fitzhugh Street, on the east side of the river.

Fordney Petroleum Co. is starting a well on Fayette Street, between Davenport and Cronk Streets.

Saginaw Prospecting Co. is starting No. 3 on the Mershon Vinyard property, as well as No. 7 on the Deindorfer Woods, city-owned property, and drilling No. 1 on the Likam property, north of the Shattuck Road, and west of Hermansau Road.

Sun Oil Co. is starting No. 3 on the Louis Voight farm, on the Shattuck Road, in the southeast quarter of Section 10, Saginaw Township.

EASTERN FIELDS

(Continued from Page 64)

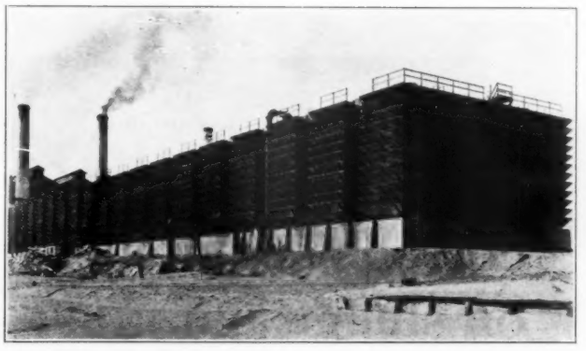
Co. completed in the Clinton sand a test on the Dagler heirs' farm. It produced 60 bbls. the first 24 hours.

In the Fisher Pool, Section 24, Alexander Township, Athens County, the Ohio Oil & Gas Co. completed No. 6 on the Clinton Atkinson farm. It is making considerable water from the Berea grit and may be abandoned. In the western part of Section 20, York Township, Morgan County, the Hope Construction & Refining Co.'s No. 3 on the Art Floyd farm is a gasser in the Berea grit good for 300,000 feet. In the northwest quarter of Section 10, same township, the Dailey Oil & Gas Co. has a gasser in the same formation at a test on the Roy Floyd farm.

New Work

In Lot 30, Athens Township, Athens County, the Athens State Oil & Gas Co. is drilling No. 6 on Ohio State lands. In Alexander Township, Section 24, the Townsend Oil & Gas Co. is drilling No. 9 on the Elizabeth Smoot farm. In the same township, the Riddle Oil & Gas Co. is drilling No. 9 on the John F. Riddle heirs' farm. In the same township, Cooke & Co. are drilling a second test on the C. P. Riley farm. In Section 34, Alexander Township, Smith and others are drilling on the P. A. Langston farm.

In the southwest quarter of Section



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6, Jackson Township, the Ohio Fuel Supply Co. has completed in the Niagara lime No. 7 on the Lenora J. Fulton farm. It produced 50 bbls. the first 24 hours after drilled into the pay.

In Westland Township, Section 11, Guernsey County, the Pure Oil Co. completed in the Niagara lime a second test on the A. B. White farm. It produced 40 bbls. the first 24 hours. The total depth of the well is 3,710 feet.

Duster in Licking County

In Section 6, Mary Ann Township, Licking County, H. C. Farmer and others have completed a test on the T. D. Wright farm, and it is a near duster in the Berea grit. In Section 24, Reading Township, Perry County, the Hutchinson Oil & Gas Co. has started to drill a second test on the W. F. Hutchinson farm. In the central part of Section 18, Sutton Township, Meigs County, the Brewer Farm Oil Co. has started to drill a second test on the T. and N. Brewer farm.

In the deep sand territory, the Edward H. Everett Co. has completed and shot in the Clinton sand a test on the Laura Shipley farm. It produced 95 bbls. the first 24 hours. It is in Section 11, Hanover Township, Licking County. In the northeast quarter of Section 10, Fallsbury Township, same County, W. L. Brown has completed and shot in the Berea grit a second test on the W. P. Chapin farm. It produced 15 bbls. the first 24 hours.

In the southeast quarter of Section 6, Hopewell Township, Muskingum County, M. F. Whitehill has completed and shot in the Clinton sand a test on the Francis heirs farm, good for 15 bbls. a day. In Hopewell Township, Licking County, J. H. Soles & Co. have a 40-bbl. producer in the Clinton sand at No. 3 on the William Coomes farm. In Hanover Township, Edward H. Everett Co. has a dry hole at a second test on the Lee Swigert farm. In Jackson Township, the Whitmore property, trustee, has a duster in the Clinton sand on the C. C. Conard farm.

In Section 23, Washington Township, Hocking County, the Limelight Oil & Gas Co. drilled a test on the W. S. Lane farm through the sand and dry. In Section 13, same Township, the Preston Oil Co. has a 9-bbl. pumper at No. 4 on the W. W. Marks farm. In Section 4, Starr Township, the same company has the rig completed for a test on the W. S. Nolett farm. In York Township, Athens County, the Glendale Oil Co.'s test on the Lick Run Coal Co.'s property is a duster in the Berea grit. In Section 32, Falls Gore Township, Hocking County, the Griffin Producing Co. has skidded the rig at its test on the Robert Tucker farm. In Section 24, Green Township, the same company is drilling a test on the Moses O'Hara farm. In Section 17, Bell, Scholl and others are drilling on the Perry Lehman farm. In Section 24, Adair & Sturm have started to drill on the Woodruff heirs' farm.

The Kachelmacher Estate has the rig completed for a test on the Isaac Mitchell farm, Section 27, Starr Township, Hocking County. In Section 6, Jackson Township. Guernsey County, William McK. Smith and others have a 75-bbl. producer at No. 3 on the Andrew Slabie farm. No. 4 on the same farm is drilling at 1,500 feet. In the same section and Township, Smith & Co. got salt water instead of oil in the Niagara lime at a test on the Willis Cox farm. In Westland Township, the Producers & Refining Oil Co. has gassers at No. 2 on the J. L. Chapman and A. E. White farms.

Southwest Pennsylvania

In Perry Township, Greene County, the Carnegie Natural Gas Co. has a gasser in the Bayard sand at a test on the Elmira Jones farm. In Morris Township, the Consumers Fuel Co.'s No. 3 on the Rutan farm is holding up at 25 bbls. a day.

In the old Wildwood district, Allegheny County, George Weir has a duster at his test on the H. H. Huff farm. In the same district, J. S. Wally is drilling a test on the Carroll farm. In McCandless Township, the Hiland Oil & Gas Co. is drilling a test on the Ringheisen farm.

At New Galilee, Beaver County, Frank G. Garvin has completed No. 4 on the Jacobs-Gardner farm. It is a very light pumper.

In the McDonald district, Washington County, J. A. Cowden & Co. have drilled their test on the J. A. Cowden farm through the fifth sand. It is dry and abandoned. In Patton Township, Allegheny County, L. O. McKinney and others are due in the sand at a test on the Mrs. Smith farm. In the same township, the Morse Oil & Gas Co. is drilling at 3,400 feet at a test on the Mort Miller farm.

KENTUCKY-TENNESSEE

(Continued from Page 64)

production, 3 more dry holes and the same number of gas wells. The wells were distributed by counties and districts as follows:

	Oil				
County—	Comp.	Wells	Prod.	Dry	Gas
Barren	11	7	53	3	1
Ohio	9	8	920	1	0
Warren	5	1	6	4	0
Floyd-Knott	2	0	0	0	2
Morgan	1	1	5	0	0
Lawrence-Johnson	1	1	7	0	0
Total	29	18	991	8	3
Last week	29	21	696	5	3
Difference	0	3	295	3	0

Eastern Kentucky

But four completions were reported from the eastern portion of Kentucky as very little work is being done in the drilling line. In Floyd-Knott Counties, District 21, the Ivyton Oil & Gas Co. brought in two nice gas wells. No. 1 on the Marion Hunter farm, and No. 2 on the A. J. Shepard farm. The Distill Martin Oil & Gas Co. is drilling a test on the Blucher Allen farm, same field. The talk is that numerous other wells will be drilled within the gas belt of the two counties during the summer months in hops of uncovering a bountiful supply of gas for the many consumers that are along the gas companies' lines over the state, as there are thousands of patrons in the towns and cities along the main gas trunk lines.

In the Ophir Field of Morgan County, District 30, the Hargus Oil Co. has a 5-bbl. pumper in No. 13 on the Mark Bays farm.

In District 22, Lawrence-Johnson Counties, a 7-bbl. well is reported on the Bailey farm.

Barren County

In the Lecta Pool, southeast of Glasgow, in Barren County, the wells since last report are not as prolific as the previous account of this fast-growing field. J. D. White and others' No. 3 on the Nichols farm is a 10-bbl. pumper, while No. 4 same farm is equally as good a producer. Pedigo & Payne's No. 1 on the Turner farm pumped 6 bbls. at 537 feet.

Jones & Breeding's second well on the Mayfield farm, same pool, produced 5 bbls. at 571 feet. Samson Oil Co. and others' No. 1 Peden farm was a duster.

In the Hall Baker Pool A. W. Ziegler and others' No. 10 on the P. Darter farm is a dry hole.

In the Knob Road area, J. J. Sayer's No. 11 Hatfield farm is rated around 7 bbls. initial.

The Little Colonel Oil Co.'s No. 4 Tom Smith farm, in the Haywood Pool, is good for 7 bbls., while No. 5 proved an 8-bbl. well at 348 feet.

In the Coral Hill Pool, the Esslinger Oil Co. encountered a nice gas well at No. 7 on the Carl Nichols farm, at 404 feet in depth.

Western Kentucky

When the roads get into good shape there will no doubt be a lot of wildcat development work in parts of western Kentucky, as leasers have been active for sometime looking over prospective territory and many leases have been taken, not to any one county alone but in a large number of counties from the north end of the state across the Tennessee line. Union County, as well as Webster County, in the extreme northwestern point, has had some lease activity and reports are current that both counties will get a testing out. The wildcat drilling by the Spice Dome Oil Co. on the C. A. Bell property, approximately 8 miles east of Owensboro near Spice Knob, in the northeastern part of Daviess County, is attracting some attention and if oil is not found at shallow depths the owners ex-

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pect to drill to a depth around 1,800 feet to test out any probable oil sand that might exist in that area.

The test of D. T. Bolling and others on the A. & T. Dickens 160 acres, north of Panther Creek Church and west of Greer School, and northwest a few miles from the Midkiff Pool, has brought about additional work in that vicinity, as the well on the Dickens was reported good for 15 bbls. initial at a total depth of 618 feet. A string of 516 feet of casing was set, sand was found at from 579 to 592 feet and shot with 40 quarts.

A few weeks ago Doctor Lang and others drilled a well south of Rough River and found what was reported a well good for 8 bbls., with a nice gas volume. This test has brought about additional interest and more drilling will be done in that part of Ohio County and about 5 miles southeast of the productive Ambrose Pool.

The Lecta Pool, in Barren County, is gradually being extended and looks as though it would cover a wider area of territory than any other pool opened in this county.

Ohio County

Just at this time the Ohio County area is furnishing the best wells being found in Kentucky and resembles to a great extent the wells of the Lee County fields of the eastern division, a few years ago, when the biggest rush of the drill in the history of Kentucky development prevailed.

Nine completions were added to the Ohio County Field since the last report and a number of others are close to completions. James C. Ellis, native oil operator who drilled his first oil venture late in 1926, brought in three of the number, making 16 completed wells on the J. R. Weller 110 acres, without a dry hole, which is something out of the ordinary for leases that all show from 100 bbls., or better per well in initial production. No. 14 well is 525 feet from the north line and 1,200 feet from the west line of the Weller farm, in the Ambrose Pool. A string of 573 feet of casing was set, sand found from 573 to 641 feet and sent to a total depth of 623 feet and shot with 150 quarts, the well responding with an intial production of 140 bbls. No. 15 well, 525 feet from the north line and 1,000 feet from the west line of the same farm, put in 589 feet of casing, topped sand at 589 feet and bottom of sand at 641 feet where the well was given a 150-quart shot and produced 160 bbls. initial. No. 16 well 525 feet from the north line and 800 feet from the west line of the same farm set 561 feet of casing, got sand from 561 to 615 feet and shot with 150 quarts, and showed an initial production of 175 bbls.

In the Ambrose Pool, just west of the W. Scott Ambrose farm, and northwest of the Weller farm, the Wood Oil Co.'s No. 4 well, in the southeast corner of the Mary J. Elmore 100 acres, set casing at 607 feet, sand from 607 to 654 feet and drilled to a total depth of 655 feet and shot with 100 quarts produced 70 bbls. initial, while No. 5 well, 640 feet from the south line and 200 feet from the east line of the same farm, set 596 feet of casing, got sand at from 596 to 646 and went to a total depth of 650 feet, the well having an initial production of 125 bbls.

Rex-Pyramid Oil Co.'s No. 7 well, 125 feet from the south line and 250 feet from the west line of the Scott Ambrose 52 acres, is reported good for 120 bbls. initial. In this hole a string of 553 feet of casing was set, sand at from 553 to 618 feet, although a break was found from 569 to 578 feet, and the well was shot with 180 quarts. Nos. 8, 9 and 10 on this farm are close to pay sand.

Southwest of the good wells on the J. R. Weller farm, Lee and Engel's No. 3 well, 200 feet from the north line and 170 feet from the east line of the J. I. Bartlett 100 acres, set 637 feet of casing, found sand from 639 to 663 feet and drilled to a total depth of 677 feet and with a 60-quart shot, produced an initial of 100 bbls.

In the Midkiff Pool, southeast of the J. J. Midkiff farm, the White Plains Oil & Gas Co.'s No. 1 in the northwest corner of the Ura Howard 40 acres, adjoining the C. A. Kelley 56 acres, set 434 feet of casing, got sand at from 434 to 452 feet, going to a total depth of 470 feet and shooting with 60 quarts, found a 30-bbl. initial producer. No. 2 same farm, is under way, as is No. 3 on the W. Coleman 125 acres, adjoining the John Ward farm to the east and in the Ward-Evans Pool, just north of the Midkiff Pool.

The Creek Drilling Co. drilled a wildcat in the northeast corner of the K. Hogan farm, south of the Whitesville and adjoining the A. and T. Dickens farm, to a total depth of 587 feet and goes down as a duster. Same company is drilling No. 1 on the G. Russelburg 60 acres, west of the Dickens farm and north of its dry hole on the Hagan farm. This company's second well on the Solly Early farm, south of the J. M. Weller farm, in the Ambrose Pool, is close to the sand.

James C. Ellis should reach pay sand within a few days at Nos. 17, 18 and 19 on the J. R. Weller 110 acres, in the Ambrose Pool. The Ohio Oil Co. is also due in another on the Rodney Taylor farm, same pool.

Warren County

Warren County is going backward at a rapid clip as far as the finding of commercial producers are concerned, for the past three weeks the dry holes far outnumber the producing wells brought in. A bulk of the dusters come from an area of territory near the hamlet of Alvaton, on the pike between Bowling Green and Scottsville and about a dozen miles east of Bowling Green. Most of the failures around Alvaton were made by R. B. Walker, who made a strenuous attempt to open up a field, but the best he could find was an occasional well that might make a barrel initial. His last two dusters reported were on the Edward Myers and John Crosby farms. Several years ago a nice showing of gas was found on the Murray Kirby farm, close to Alvaton and was utilized for light and heat, and another well drilled shortly after the Kirby well on the Bates farm, which had a heavy gas volume and considerable oil, but was never put on the pump. The two wells mentioned were drilled by well-posted oil people.

In the Davenport Pool west of Bowling Green, Onsel Brothers and others' No. 16 on the C. G. Davenport No. 2 farm produced 6 bbls. from the depth of 1,070 feet.

South of Bowling Green, S. E. Silverthorn drilled No. 3 on the W. H. McGinnis farm to a depth of 325 feet, dry. Morrow & Hays have one of the same kind on the D. N. Taylor farm at a depth of 920 feet.

Wildcat Well Showing

The most important development in the Ohio County, Kentucky, Field since the bringing in of the James C. Ellis wells on the J. R. Weller farm was the drilling into a pay sand a test on the Ralph farm, about 900 feet east of the well recently drilled by J. H. Lang and others, which had a showing and reported at 8 bbls., with a heavy volume of gas, but the new well is estimated as showing for a much better producer which may mean the opening of an entirely new pool, being something like 4 or 5 miles southeast of the Ambrose Pool, where the good producers have been found on the Weller farm. The new well is near the Rough River and a little village called Sunnydale, in Ohio County. The real value of the test will not be known until given a shot and a chance to flow or put on the pump. This well, if it has the showing reported, should speed up active development in the Rough River section of the county.

A heavy downpour of rain, hail and wind passed over portions of western Kentucky at midnight Friday, unroofing buildings, uprooting several trees, bringing down telephone and telegraph wires and doing thousands of dollars of damage. Parts of Barren, Edmonson and Metcalf Counties appeared to get the east wing of the storm which frightened the people of the three counties. Hancock, Ohio and Daviess Counties got the full force of the west wing of the heavy storm and the little oil town of Whitesville, in Ohio County, got its share of damages. More or less damage was done to the oil fields but no one was reported injured to any extent.

Be Careful in the Selection of Lubricants for Your Motorized Equipment—

Passenger cars and trucks of different makes vary considerably in type and design.

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STUDY FURNACE OILS; SUGGEST THREE GRADES

(Continued from Page 35)

first class. In the second class oils a maximum value only is suggested, this being 75 seconds at 100 degrees Fahrenheit, Saybolt Universal.

When the distillation clause for the oils of the first class is properly drawn, no carbon residue requirement is necessary, and it is not generally necessary in the case of oils of the second class.

Color and Odor

The committee advises against including in specifications those of gravity, color and odor, calorific value and sulphur. The gravity of oil is of value, it states, only as an indirect and frequently unreliable indicator of characteristics. Color has no bearing on the quality of the oil. Oils of this class cannot be expected to be odorless, and as odor cannot be specified in terms of any measurable standard, it should be eliminated. While calorific values are, of course, the reason for the use of the fuels, the committee states that there can be no value comparison made between oil and coal in this respect. Oils of the classes under consideration vary somewhat in sulphur content but they do not remotely approach the sulphur content of heavy industrial fuel oil, and a sulphur requirement is considered unnecessary from the standpoint of the consumer.

Howard's Suggestions

In a recent address before the American Oil Burner Aassociation, Frank A. Howard, president of the Standard Development Co., suggested three classifications of fuel oil for burner purposes the first two corresponding to the two classes just described and the third an industrial fuel oil.

"As applied to your business," he said, "there seems to be need at the present time for only three classifications of fuel oil, as follows:

"1. Furnace Oil: This is the highest grade of distillate fuel oil which is generally distributed for use in oil-burning equipment not of the wick-feed type. It will give excellent results in practically all domestic oil burners and is the only type which will operate satisfactorily in the simple vaporizing burners. Except for the fact that it is not adapted for use in lamps and ordinary stoves, it is very close to being of the quality of kerosene. This product now commands in general the highest price of any fuel product, is required for use in a large percentage of burners, and justifies its somewhat higher price through operating advantages which it possesses in an additional large percentage of the burners now in use.

"2. Domestic Fuel Oil: This classification is broader than the furnace oil and applies generally to all clean distillate petroleum products of good volatility, low viscosity, and low cold-test. Products coming within this range are sold for other uses under the names of distillate fuel oil, gas oil, and Diesel oil. While the possible variations in properties between various grades of distillates of this character are considerable, the variations which would be met with in supplies from reliable sources purchased under the name of domestic fuel oil, and by virtue of the application of this name clearly intended for use in domestic oil burners, would be so small as to insure the delivery of a satisfactory product and one which would be uniform enough to avoid difficulties in any equipment which is properly designed to handle this grade of fuel. There is a considerable proportion of such equipment in use at the present time.

Industrial Fuel Oil

"3. Industrial Oil: This is an extremely wide classification and is intended to include any liquid petroleum product of low value suitable for use in marine, railway, and industrial power plants. The navies of the world and a large part of the merchant marine run on this product. It is sufficiently standardized for the purposes for which it is sold. The single term fuel oil, without qualification, means this grade of product in the industrial world. The facilities required for delivery, handling, and burning this oil are very well worked out wherever the volume of demand is great, but the inherent nature of this grade of oil makes it very difficult to handle in small quantities. Although there are a limited number of domestic burner installations which will satisfactorily handle industrial fuel oil, the present sphere of usefulness of and demand for this product is practically confined to the large consumer; either the industrial consumer, or the hotel, apartment house, or office building. There is, roughly speaking, the same distinction between industrial fuel oil and domestic fuel oil that there is between a steam power plant and a domestic steam boiler.

"I think that the universal use of these suggested names for the products in which you gentlemen are interested will serve your purposes much better than any effort to more closely define them by gravity or other specifications. Neither the consumer nor the oil-burner dealer or service man can be expected to acquire a knowledge of the properties of the various oil products sufficient to permit him to intelligently discriminate between products recommended by the manufacturer of the burner or offered by the oil company on a basis of technical specifications. The only solution of the problem is that the oil burner manufacturer shall honestly advise the user of the name of the oil product with which the burner should be supplied; and if it be capable of operation either on furnace oil or domestic fuel oil, then tell the user this. The user and the service man, alone, or together, will be able to tell whether, considering everything, furnace oil or domestic fuel oil should be used at any particular time and with any particular price differential. From the standpoint of the oil company, the situation will also be simplified and improved. There is no difficulty nor any reason for confusion on their part, at least on the part of any of them who have had any wide experience in this line, in distinguishing between a product which is entitled to carry the name furnace oil and a product which should be graded as domestic fuel oil.

"As for the industrial fuel oil, its use at the present time is very small in the domestic heating business, and the only suggestion which can be made is that, in the present state of this business, the user of industrial fuel oil will either have to have the benefit of engineering advice in writing specifications for his oil and arranging for delivery of this specified grade or its equivalent, or he will have to rely upon a survey of his burning equipment and tankage installation by an experienced, skilled fuel oil salesman and accept the latter's recommendation."

MARKETING METHODS IN CHICAGO AREA

(Continued from Page 34)

effect by a large refiner-distributor in this city:

38-40, straw, zero cold test distillate, 8 cents per gallon.

34-36, straw, zero cold test, gas oil, 7½ cents per gallon.

34-36, dark, zero cold test, gas oil, 7¼ cents per gallon.

26-30, dark, zero cold test, fuel oil, 7 cents per gallon.

24-26 dark zero cold test, fuel oil, 6½ cents per gallon.

Contract Terms

The contract provides that any advance in the established tank wagon price of the seller shall apply to these prices provided that the advance or decline on this contract shall not be greater than one cent per gallon up or down. The contracts usually used in this city provides for over-time charge of $1 per hour for deliveries made on orders after 5 p. m., where the order was not received by the sellers before 11:30 a. m. that day or on Sunday where the order was not in seller's office by 11:30 a. m. the preceding day.

This clause in the seller's contract is mentioned because it brings out one of the most difficult problems to handle in the distribution of fuel oil and that is the rush of orders when a cold snap comes unexpectedly. To maintain as

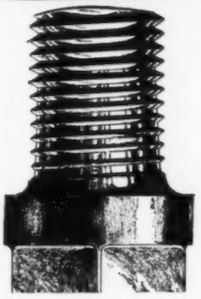
"That's a clean String of Rods"

To Axelson Sucker Rods defeat is unknown. Made from steel which Metallurgists recognize as the finest that money and science can produce, these rods have unequalled stamina. The correct design is definitely conceded by the Petroleum Industry at large. Axelson Rod workmanship reaches to standards of precision as exacting as those imposed in our tool rooms.

Significant is the fact that of the thousands upon thousands of Users of these Rods, only a scant few have ever changed to other types—and most of these have changed back to Axelson—or will eventually.

So if you seek clean strings of rods—clean in quality—clean in design—clean in workmanship—your selection will be Axelsons, now or eventually.

Axelson Machine Company
Los Angeles, Tulsa, St. Louis, New York City
Mid-Continent Distributors—Frick-Reid Supply Company
Eastern Distributors—Frick & Lindsay Company



Axelson Vanishing Thread

Axelson Sucker Rods

HOPE SERVICE

THE achievements of the Hope Engineering Corps, while often spectacular, are but the logical fruits of an intense concentration upon a specialty. They are never remarkable—to a Hope engineer. They are what he always expects. They are not the result of the spur of competition—there is no competition. The Hope Engineering and Construction Staff succeeds because it has never yet known the discouragement of a failure.

How can we work with you?

ENGINEERS CONTRACTORS

HOPE ENGINEERING AND SUPPLY COMPANY

DESIGNERS MANUFACTURERS

MOUNT VERNON, OHIO, U.S.A.

DALLAS, TEX. TULSA, OKLA. CASPER, WYO.

regular deliveries as possible is the idea of all managers of distribution for a fuel oil company. The local manager of one of the larger companies mentioned an instance last season that illustrates the difficulties that arise in this business. Friday morning he started to visit an outlying station calling on his way to that station at a city station. The total deliveries that day at the city station would not have kept the trucks more than fairly busy. He went on his way and shortly the wind changed, the weather showed every sign of intense cold, snow began to fall. When he stopped at that city station a few hours later they had received orders for the delivery of 72,000 gallons of various grades of furnace and domestic fuel oil and the orders continued to pour in all that afternoon and the following Saturday. On Sunday the cold spell showed signs of abating and on Monday they cleaned up the orders and found themselves with not enough business before them to keep all the trucks going.

At such times acute shortages of oil may develop and it is of course impossible to borrow any extra trucks as every oil distributor is in the same position. Most of the oil distributors keep a record of all deliveries where they may be watched and when the time approaches for a regular customer to need more oil he is called on the 'phone and asked if it is not time for the oil man to call and fill the tank. Some of the Chicago distributors have arranged their customers on regular routes and the oil man calls on certain days and fills up the tank that day.

Small Tanks

Small supply tanks are a great source of trouble to the oil man. As has been indicated some of the oil distributors in this city refuse to accept contracts with buyers where the tank will not take in 400 gallons at one fill and it is quite customary to make a scale of prices, one a price below 150 gallons, of 150 to 400 gallons the usual differential being one-half cent.

In the smaller communities where only a few burners have been installed it is customary for the local oil man to stock but a single grade of oil of a quality that will meet the requirements of the class of oil burners of the more particular type, that is clean, sweet distillate with a low flash point and cold test. This is all that is required by the automatic force feed type of burner. The natural draft burner cares little or nothing for the low flash as the flame burns continuously but they do want an oil with as low a fire test as possible to insure complete combustion of the oil. A low flash oil commonly has a low fire so that a good distillate answers the needs of the natural draft burner as well.

Improvements

There is a good deal of talk in the oil burner industry of surprises in store, of great changes that will be made. Some of these newer devices have been exhibited and to a non-expert they do not seem to be so very different from what has preceded them. A great deal of attention has apparently been given to reliability of operation. The number of moving parts is being decreased which will cause less servicing and less repairs. But the satisfactory oil burner of yesterday is not going to be removed today to secure a new and better burner. A very eminent heat engineer gave it as his opinion from the results of tests made that the actual efficiency of the old burner of today had not been substantially increased over that of last year. Some of them were better than the old model but this rather brought them up to the grade of good burners than put them in a class by themselves.

The consensus of opinion regarding the qualities most essential in a domestic oil burner was that reliability came first and efficiency second. A third might be ability to operate successfully on a wide range of fuels. There is an oil burner patented in Canada, and owned by an estate that does not want to go into the oil burner business, that will operate easily and successfully on the waste oil from crank cases and brake enclosures. At a test it was operated with no apparent difficulty on a can of hard Polarine grease. But otherwise it is not markedly efficient. Yet in some localities this burner with the capacity of burning apparently anything that is of a greasy or oily nature might be the best choice of a burner.

But after all what creates a permanent demand for any product of any nature is satisfied customers. The oil burner manufacturer has that. Interviews with a great number of users of domestic oil burners show that the great majority of users are perfectly satisfied with the service and the costs of operation. One prominent oil man said that he had heated his home for four years with a well known make of oil burner without the least trouble. In the fall he set the thermostat and started the burner and just let it run until the spring came with continuously warm weather. The service man came and looked the burner over and the oil man filled the tank at regular intervals. His oil consumption was 3,000 gallons annually. The house is a large one and he figures that the saving over the cost of anthracite coal has paid for the installation during the time that he has used the burner. With variations this story is typical, the variations being chiefly the make of burner and the quantity of oil consumed.

Not one of many seen would go back to coal even at a much higher price for oil for fuel than they have ever been obliged to pay. The makes of heaters and the cost of installing them varied from one very expensive make that cost with a 1,000 gallon outside tank over $1,600 down to a natural draft burner that cost installed $165.00.

A constant source of friction in the oil industry is the habit of some burner men when called on account of some trouble in the operation of a burner to blame it on the quality of the oil. The efficient oil company knows that the oil it delivers is the right kind of oil and its service men are frequently so well posted on the makes of burners that they serve, that they are able to point out the real trouble and lay the blame where it belongs. One of the leading burner manufacturers in this city has instructed its service men never to blame the trouble on the oil but to get in touch with the company furnishing the oil and take up the situation with them, finding out just what oil was supplied at the last fill. Its rule is never to knock the oil man but work with him to make a satisfied customer.

It is a fact that in spite of the apparently high costs to the home owners of a domestic oil burning installation, the business is less profitable than it should be. Much of the manufacturers' profits to date have been absorbed in the experimental work necessary to perfect the appliance and the difficulties of introducing the burner to the public have been very great. The coal industry at least in Chicago and vicinity has been an active and efficient opponent of the introduction of the oil burner. The burner industry has been greatly handicapped by poor sales methods and incapable representatives. The oil industry has been frequently indifferent and has developed great difficulties for the burner maker by the persistent reports from alleged oil authorities of an imminent shortage of crude playing into the hands of those opposed to the introduction of the burner. Yet in spite of this opposition, organized and incidental, the number of oil burners has increased rapidly and in the vast majority of cases, the owners of the burners are greatly pleased with the result of the installation.

Detroit Plan

A combination of the oil burner business and the distribution of furnace and domestic fuel oil has been worked out by the Fuel Oil Corp. of Detroit. This concern has arranged with the makers of eight leading oil burners to service the burners installed and keep a supply of parts on hand. For the servicing a small charge is made to cover the cost of the department. The advantage is that when the season for the need of the service man is passed, he can become a most efficient oil salesman for the renewing of old contracts and the making of new ones.

The Chicago organization of distributors of heating oils has a form of con-

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when you use an

Eclipse Deepwell Pulling Machine

Dependability with absolute safety—the reason why it is found everywhere.

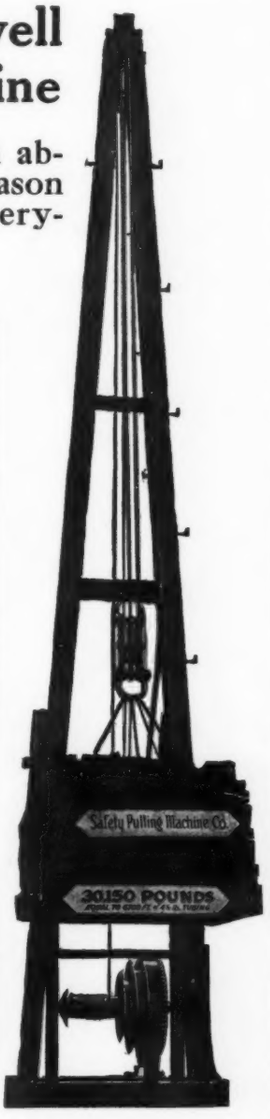
Specifications
DEEPWELL

Eclipse Deepwell up to 8000 ft. 2" Tubing, Weight 3645

Mast 8x10x36 ft., Douglass Fir A-Style Two Wheel Truck, two 16" Bronze bearing crown pulleys, 2½ Steel Pin mounted in malleable boxings. Large supporting plate 16" dia. between crown pulleys, eliminating any chance of bending pin.

Reel or Drum; 32 lb. 8¼ casing filled with concrete for winding drum, differentials banded with 3/16 band iron, brake surface 6"x40", choke brake style same as Star drilling machine.

. The whole reel assembly is mounted on 2¾ square steel shaft extending clear through reel, secured by three heavy castings.



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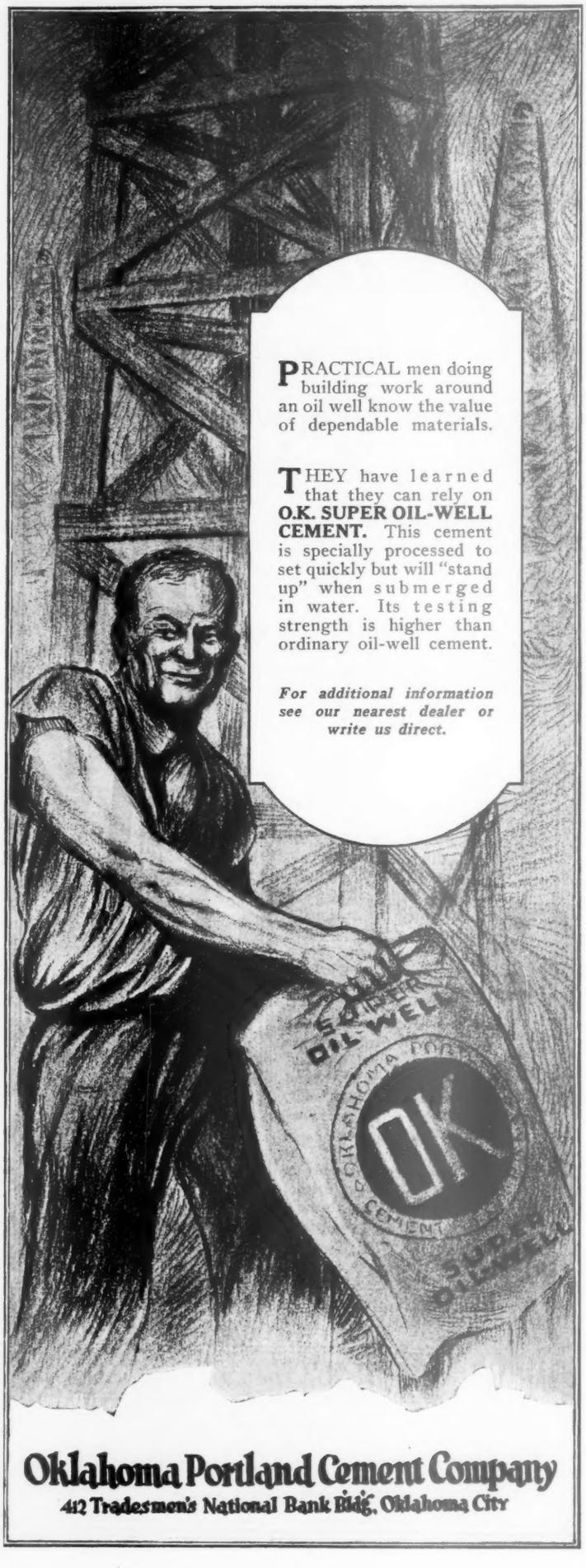
PRACTICAL men doing building work around an oil well know the value of dependable materials.
THEY have learned that they can rely on O.K. SUPER OIL-WELL CEMENT. This cement is specially processed to set quickly but will "stand up" when submerged in water. Its testing strength is higher than ordinary oil-well cement.
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tract that covers a number of points in which the oil company must be careful if it wishes to avoid claims for damages. One clause in this contract provides that the oil company shall not be responsible for any damages that may be caused by the driving of a truck on the buyer's premises to fill an order for oil. Some of the roadways will crush down under the weight of a loaded truck. Sometimes the truck will skid off the cement and damage the lawn. A clause covering the damage from spilled oil is also included. Also a complete statement of the overtime charges and the extra charge for less than the regular delivery quantity. The actual contract of the different organizations all cover to a more or less complete extent these possibilities of damages or misunderstandings.

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Imports of crude and refined oils at the principal United States ports for the week ended May 28 totaled 1,272,000 bbls., a daily average of 181,714 bbls., compared with 1,263,000 bbls., a daily average of 180,429 bbls. for the week ended May 21 and a daily average of 184,036 bbls. for the four weeks ended May 28.

	Week ended May 28
At Atlantic Coast Ports:	
Baltimore	62,000
Boston	65,000
New York	650,000
Philadelphia	73,000
Others	103,000
Total	963,000
Daily average	137,571
Gulf Coast Ports:	
Galveston district	20,000
New Orleans and Baton Rouge	229,000
Port Arthur and Sabine district	60,000
Total	309,000
Daily average	44,143
At All United States Ports:	
Total	1,272,000
Daily average	181,714
Daily average four weeks	184,036

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended May 28 totaled 153,000 bbls., a daily average of 21,857 bbls., against 630,000 bbls., a daily average of 90,000 bbls. for the week ended May 21, and a daily average of 54,714 bbls. for the four weeks ended May 28.

	Week ended May 28
At Atlantic Coast Ports:	
Baltimore	75,000
New York	78,000
Total	153,000
Daily average	21,857
Daily average four weeks	54,714
Distribution of total California Oil Receipts is as follows:	
Crude	75,000
Gasoline	78,000
Total	153,000

DEATH OF SAMUEL P. FLEMING

Samuel P. Fleming, died in Tulsa Wednesday, June 1 after a brief illness. Mr. Fleming was born in Pleasantville, Pa., 74 years ago and in his early manhood entered the employ of the Paragon Refining Co. He was employed in the Eastern fields until 1911 when he came to Oklahoma as a representative of the Paragon company. When the Cushing Field was on the ascendent he made his headquarters in Drumright, Okla. Later he entered the service of the Layton Oil Co. in the same field. At the time of his death he was employed by the Prairie Oil & Gas Co. at Webb City.

PRAIRIE P. L. SHIPMENTS

The Prairie Pipe Line Co.'s shipments of crude oil in May through its lines running north and east were 5,641,514.66 bbls., a daily average of 181,984 bbls. This is the largest month's business the company has had since 1922, but the daily average in May was slightly under that of the shorter month of April, which was 182,827 bbls. The March total was 5,449,688 bbls., or a daily average of 175,796 bbls.

PIPE MILL OPERATIONS RUNNING AROUND 70 PER CENT AT PRESENT

By B. E. V. Luty

PITTSBURGH, Pa., June 6.—The demand for oil country goods in general has been decreasing more or less continuously since February or early March, when there was something like the usual buying for stock replenishment of jobbers and for oil companies to do drilling considered absolutely necessary. Little additional line pipe business has come out, whereas for several months, beginning last October, there were various large orders, with the usual combination of small orders in the smaller sizes, for feeders and branch lines. At the present time, it seems, there is not much line pipe business left on books except in the case of the three companies which make 20-inch, those companies still having deliveries to make.

Demand for standard pipe has had about the usual seasonal increase since early in the year, but on the whole it has not been running as well as last year, being off, say 10 per cent. Last year was by no means a particularly good year in standard pipe, although that appearance was produced partly by there having been a decided increase in productive capacity, making it necessary for there to be more tonnage in order to go around.

In April of last year pipe mill operations were estimated at around 85 per cent, and they seemed to slip off a little in May, then working up to a 90 per cent rate in June, that 90 per cent being made up of practically 100 per cent in lap weld and say 80 per cent in butt weld.

In March and April of this year pipe mills were estimating their operation at 75 to 80 per cent on a general average, while in the past two or three weeks 70 per cent has commonly has commonly been mentioned. However, considering how much lighter demand is this year than last, it would seem rather improbable that the pipe industry as a whole can be running at even as high as 70 per cent. An interesting point is that while there has been a distinct trend from welded to seamless, the seamless tube mills are not running at all well. One of them had to close for a month, recently, in order to reduce stocks.

Steadier Than Expected

There is little talk of price cutting on either standard pipe or oil country goods. There is more or less admission that some little extra trimming is frequenly given, beyond the regular trade practice, but this is hardly considered cutting. On the whole the market is steadier than might be expected from the lightness of demand. No talk is heard of there being any such shading as might lead to the issuing of new lists. Since April 19, 1923, the pipe market has been aligned on a 62 per cent basing discount, and printed on the standard or merchant pipe card.

Steel buying in general has continued decreasing, but at no rapid rate, and the market is still moderately active. There has been a decrease of about 10 per cent in the rate of steel production from the peak rate, reached in March, and it is estimated that May production of steel was a shade above that in May of last year. As backlog tonnages are pretty well worked off and the recent rate of buying has been below the rate of production and shipments, a further decrease in steel production is to be expected, say to a 75 per cent rate in July, usually the low month, against a 93½ per cent rate last March.

Finished steel prices in general are not particularly steady but they are not plainly engaged in declining. Wire nails are irregular in most sections, and bars, shapes and plates are weak in the east.

Pig iron and coke are very dull indeed.

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REFINED OIL
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Aluminum Paint

THE du Pont Company has perfected a vehicle for Aluminum Powder, as made by the Aluminum Company of America . . . a vehicle which, in combination with the metal powder, results in a perfect Aluminum Paint.

This paint, made with Albron Pigment, manufactured by the Aluminum Company of America, is resistant to hydrogen sulphide—reflects the sun's rays and keeps tanks cooler—covers remarkably—wears longer—and retains its light-reflecting lustre.

This vehicle was evolved in the laboratories of the du Pont Company, after long experiment, and is already in great demand in the oil fields.

A product produced by the joint resources of the du Pont laboratories and the du Pont practical paint engineers, who are familiar with every requirement of the oil field,—was sure to be excellent. But—the *surprising* improvement of du Pont Aluminum Paint over other metal paints is nothing short of astonishing.

DU PONT

Write for full information or let one of the du Pont field men show you how you can use this paint to advantage in your operation. E. I. du Pont de Nemours & Co., Inc., Chemical Products Division, Parlin, N. J., Tulsa, Okla., or Chicago, Ill.

A du Pont finish for every surface

CALIFORNIA FIELDS

(Continued from Page 58)

developing deep production, has carried No. 1 Lovell down to 4,875 feet and an early test is contemplated with the outlook quite favorable for substantial production. California Petroleum's No. 5 Alamitos was somewhat of a disappointment on a preliminary production test at 4,754 feet and drilling has been resumed. General Petroleum has designated No. 7 Wasem as a deep test and this well was reported down 5,065 feet a few days ago. Richfield Oil Co. was not satisfied with the small production registered by No. 1 Bonner at 4,683 feet and as a result the hole is being redrilled and deepened. The Standard finished a very satisfactory completion on the San Gabriel lease in the older section of the Seal Beach Field and while only a limited amount of drilling is being done on this lease the company has three more potential producers scheduled for completion within three or four weeks. No. 12 San Gabriel, the Standard's new well, started off flowing 2,080 bbls. of clean 27.1 gravity oil daily from 4,681 feet.

Marland Operations

The Marland's operations in the older section resulted in two completions, both located on the Bixby lease. No. 4 was returned to production flowing 2,570 bbls. of clean 26.5 gravity oil daily after being redrilled and deepened to the Selover zone at 4,750 feet. This well was originally completed in the Bixby zone last November flowing 2,750 bbls. daily from 4,480 feet. No. 9 Bixby was returned to production flowing 1,195 bbls. of clean 25.6 gravity oil daily after being deepened from 4,400 to 4,500 feet. This well is still producing from the Bixby sand. The Marland is working on several drilling projects on the Bixby and Selover leases in addition to five or six former producers which ceased flowing a short time ago.

The operations of the Associated are limited to the older section of the Seal Beach Field, in which area the company recompleted No. 1 Bryant a few days ago. This well, originally finished last December as a 3,024-bbl. producer from 4,366 feet, was returned to production after being redrilled and deepened to 4,545 feet. Upon recompletion No. 1 Bryant started off doing 2,099 bbls. of clean 24.4 gravity oil daily. It is flowing through a three-fourth-inch bean under a pressure of 800 pounds. The Associated also finished a new well in this area when No. 21 Bryant was turned loose from 4,873 feet. The completion of this new well which started off flowing 2,196 bbls. daily demonstrates one of the uncertainties and ironies of the oil industry as it is less than 100 feet away from the Shell's No. 1 Bryant, drilled and abandoned three years ago. The Shell failed to open up the Seal Beach Field because of a series of gas blowouts and mechanical troubles which prevented drilling below 4,625 feet, at which depth the hole was abandoned because of inability to shut off water. This well actually produced for several months but the output ran about 100 bbls. of oil and something like 3,000 bbls. of water. The oil produced was used for boiler fuel while the company was doing additional exploratory work nearby. At this time practically every one was of the opinion that the Seal Beach Field was located almost exclusively on the Hellman property later acquired by the Associated. This company also subsequently leased the Bryant property which the Shell originally prospected without success.

Huntington Beach

The Superior Oil Co. surprised the boys a few days ago by completing No. 1 Walker in the town lot area of the Huntington Beach Field as a 570-bbl. flowing well from 3,099 feet, the hole being finished with an 8¼-inch oil string carrying 280 feet of 80 mesh screen. The Crudoil Co.'s No. 5 Huntington, finished two weeks ago as a 695-bbl. well from 4,370 feet, is holding up in good shape, the present settled production being 492 bbls. daily. This company still has three drillers to complete and, barring the development of mechanical trouble, the trio should be on production within 30 days. The San Martinez Oil Co.'s outpost in the Ninth Street area has not been given a production test and hence nothing definite is known of its potentiality as the company is closely guarding all information. The Standard recompleted No. 58 on Lease B just north of the town lot area a few days ago at 4,335 feet and it started off flowing 345 bbls. of clean 24.7 gravity oil daily. The Standard recently spudded in two new drillers, Nos. 28 and 29 on the Bolsa Chica lease and both should come into production within the next 30 days. The Shell took a core yesterday in No. 7 Cresson, one of its five new drilling projects on this lease in the Long Beach Field, and the outlook at 5,259 feet is quite favorable for large production. It is scheduled for completion within 15 days.

The only new well finished at Long Beach this week was the Graham & Loftus Oil Co.'s No. 3 Lightburn, which came in flowing 1,971 bbls. of clean 26.2 gravity oil daily from the deep sand at 5,300 feet. This lease, like the Richfield's Haas property, is one of the most productive tracts in the entire Long Beach Field. The Union and Shell have both reduced drilling operations in the Dominguez Field to an absolute minimum and completions during the next several months will be few and far between. The only development of interest during the week was the abandonment of No. 3 Carson by the Union as an unfavorable producer at 4,647 feet. The Standard has just brought in No. 43 Baldwin at Inglewood as a 329-bbl. flowing well from 2,032 feet.

Richfield

Several new producers were chalked up in the Richfield District, the Standard Oil Co. leading with two new completions. On the Anaheim Union Water lease the company finished No. 2 at 3,018 feet and brought it in pumping 151 bbls. of clean 20.2 gravity oil daily. No. 1 Vejar, drilled to 2,902 feet and finished with a 6⅝-inch oil string, was somewhat larger, registering an initial output of 235 bbls. daily. The Standard's next completion in this field should be No. 10 on Kraemer Lease No. 2, being deepened from the upper to the lower sand. The Union's drilling activities at Richfield resulted in the finishing of No. 5 Ayers and Parsons, a 518-bbl. flowing well from 4,525 feet. The Union's present production at Richfield aggregates approximately 6,000 bbls. daily but this figure should be substantially increased in the near future upon completion of Nos. 6, 7, 8 and 9 on the Stern lease and Nos. 10, 13 and 14 on the Yorba Linda Group. The company also has two potential producers on the Chapman lease in this field in addition to Nos. 69 and 70 on the Stearns property at Brea Olinda. The General Petroleum recently spudded in two new drillers on the Pedeco lease and another on the Thompson property, both located in the Richfield District. Negotiations were recently consummated for the development of the Chicksan Oil Co.'s Wallup lease at Coyote by the General Petroleum and the first well will be approximately 300 feet south of Herdon & Hunter's Lemke lease. The outstanding development in the Bea Olinda, or Fullerton Field was the completion of No. 5 Fisher of the Shell as an 850-bbl. flowing well from 5,125 feet. The large production secured was not entirely unexpected as the well has a penetration of over 1,500 feet in the oil sand.

Southern California Wildcats

The Standard Oil Co. had expected to spud in No. 1 Rindge, a new wildcat near Palms in the Santa Monica quadrangle in Southern California, early in the week but drilling operations were stopped by a restraining order issued by the Superior Court upon application of Harry Culver, a realtor, and the Pacific Military Academy, owners of adjoining acreage. The restraining order was issued in conjunction with a suit filed by a number of applicants seeking to prevent permanently wildcatting in this section in as much as the entire area was previously zoned by the City Planning Commission. The complaint filed alleges that the entire district was zoned for

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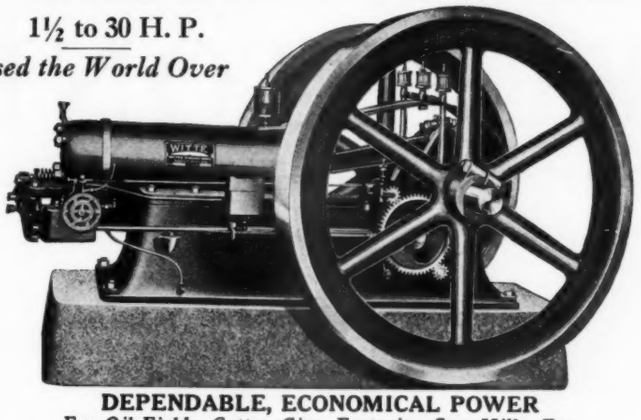

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strictly residential purposes previous to March 28 but that the Rindge acreage was subsequently thrown open for unlimited usage. The Marblehead Land Co., which is a holding concern for Mary K. Rindge's acreage in this area, was also cited in the court order issued. Regardless of the merits of the case, which alleges irregularity on the part of the landowner, the Standard will probably be prohibited from drilling for some time unless a compromise is effected with adjacent property holders, as drilling operations could probably be held up indefinitely by the filing of numerous successive suits.

The Petroleum Securities has definitely decided to abandon No. 1 Weston, located along the northern edge of the Palos Verdes uplift near El Segundo. This is the third attempt of the Petroleum Securities to develop production in this section, No. 1 Palos Verdes and No. 1 Narbonne having previously been abandoned at 2,521 feet and 4,554 feet respectively. A. T. Jergins also made an attempt to develop production in this section but pulled out after reaching 2,782 feet. The town lot area at Potrero will make its third bid for production within a few days if the California Eastern Oil Co.'s No. 1 Cypress shows any favorable indications. The outlook at best is none too bright for even if this company should succeed in securing commercial production only a very limited section would be available for drilling. The two dry holes already drilled about 1,000 feet to the south preclude the possibility of any extensive town lot drilling and at present it looks as though the Associated has practically every acre of potential oil land sewed up tight. This company, by the way, is drilling ahead in No. 2 Cypress at 3,309 feet, the initial test still standing cemented at 4,450 feet. The Smith Petroleum suspended operations on its No. 1 Johnson at Hawthorne early in the week and it looks as though the company is through for the present at least. This well showed a little oil but water trouble and the absence of any considerable amount of oil sand prevented the development of commercial production. The Shell is making fairly good progress in its two southern California wildcats, one at Placentia and the other in the San Fernando Valley, but since both were only spudded in a short time ago it will probably be 60 days before either will bear watching.

Northern California Wildcats

General Petroleum is still working on its No. 1 Burbank, a wildcat in the Kettleman Hills area and the California oil industry may have another new oil field on its hands if the company succeeds in excluding the water which has so far prevented the production of clean oil in this area. The Bolsa Chica was the first to reveal the existence of a possible productive horizon in this section but the company temporarily suspended operations some time ago due to a combination of factors, not the least of which was the rapidly mounting production of light refinable crude and the general desire to limit further prospecting work. Before suspending drilling, however, the company made a pumping test of its Kettleman Hills wildcat and found it capable of doing around 75 or 100 bbls. per day. The production, however, was somewhat unsatisfactory due to the water problem which up to the present is unsolved. The General Petroleum followed the Bolsa Chica into this particular section and if its persistent efforts are rewarded, a new field is assured.

This area, like the newly discovered field near Round Mountain, will not cause the industry any inconvenience as the acreage is all held in large blocks and the oil is of a rather low grade crude not readily adaptable to present refining methods. This district will bear watching, however, for the development of a second sand at a later date may exert some effect on future production if it has any refining qualities.

The General Petroleum is also wildcatting in Section 26-22-18 where the company drilled a deep dry hole which was lost primarily because of mechanical trouble a year or so ago. This area also has exceptional promise although in this instance the productive horizon demands deep drilling ranging anywhere from 5,000 feet down. Records indicate that the company at one time expected to complete its initial test, No. 1 Oschner, due to the heavy gas pressure encountered and the favorable showing noted from time to time.

Shell Wildcatting

The Shell Co. has been active during the past few weeks and this organization is undoubtedly making strenuous efforts to build up as large a future reserve as possible. With this end in view the company has substantially extended its wildcat operations and will probably undertake additional exploratory work during the summer. The Shell recently leased a 493-acre tract in the Summerland District and it is understood a deep test will be undertaken. The Summerland Field is a unique district due to the fact that present production is secured in the open ocean beyond the high tide line. The lease consummated by the Shell a short time ago includes a large part of the Ortega Rancho in addition to some adjoining acreage in the town of Summerland and extending practically up to the eastern limits of exclusive Montecito, the California millionaire colony. The Shell will not attempt to produce from the shallow zone at Summerland but will undertake a deep test in the hope of finding a more productive sand. The location of the Shell's new well is particularly interesting at this time in view of the fact that the first shallow production secured at Summerland was found on the slopes of Ortega Hill. As the amount of work increased prospectors moved down off the hill then across the railroad tracks which parallel the coast line and finally out into the ocean itself. The Chanslor-Canfield Midway Oil Co. has cemented its Delano wildcat for a second time and will conduct another production test before proceeding ahead as some fairly promising shallow indications have been logged.

GULF COAST FIELDS

(Continued from Page 55)

proposed deep test, is drilling around 2,500 feet. The Cove Gas & Oil Co.'s No. 1 Cotton is a location.

Other Pools

On the east side of the Barber Hill Dome in Chambers County, the Humphreys Corp. set and cemented casing and will set strainer at 4,100 feet for a test of No. 4-B Kirby. No. 2 Kirby is still flowing an average of 230 bbls. per day and No. 3 is being worked over. The Humble Oil & Refining Co.'s No. 1 Kirby is drilling around 3,000 feet. Barclay & Meadors have a location on the west side.

The Texas Company's No. 23 Arnold on the south side at West Columbia is drilling around 3,345 feet.

The Rycade Petroleum Co. is rigging No. 15 Wisdom in the Nash Pool.

In the Orange Pool, the Texhoma Oil Co.'s No. 13 Chesson is bailing at 3,425 feet. No. 16 Chesson is shut down at 3,250 feet. Locations have been made for the Gulf Production Co.'s No. 4 Granger and the Tillery Oil Co.'s No. 2 State Land in Cow Bayou.

The Sun Oil Co.'s No. 11 Cade at High Island, Galveston County, is drilling below 2,500 feet.

In the Boling Pool in Wharton County, the Sun Oil Co.'s No. 3 Felder on the northwest flank is around 1,950 feet. The Gulf Production Co. is rigging up No. 1 W. P. Abendroth and No. 1 B. B. Abendroth. Weed & Gayle have derricks up for No. 3 Bey and No. 2 Wetzel in the shallow sand section on the dome.

South Louisiana

In the Edgerly Pool, the Gulf Refining Co.'s No. 41 Bright-Penn is drilling at 4,170 feet with a location for No. 42. No. 8-B Higgins is rigged to drill deeper.

The Rex Petroleum Co.'s No. 5 Hunter is drilling around 4,235 feet. No. 6 is a location. The Hercules Oil Co. has derrick standing for No. 2 Paraffin.

In the Jennings Pool, the Port City Oil Co.'s No. 7 S. F. S. is pumping 100 bbls. at 1,750 feet. Cline & Son's No. 2 Wilson is drilling around 1,900 feet. The Mentau Oil Co.'s No. 2 Pierce is at 1,507 feet. The Texas Company's No. 3-B La-

trielle is at 1,120 feet and No. 102 Latrielle will be deepened. No. 1 Rayne is at 4,485 feet.

In the Lockport Pool, the Vacuum Oil-Gulf Refining Co.'s joint No. 16 Miller is drilling at 4,485 feet and No. 17 is around 2,565 feet. No. 11 Miller is deepening at 4,435 feet. No. 3 Bayou d' Inde is drilling at 4,455 feet. No. 2 Fredberg & Wolf is at 4,910 feet and No. 4 below 1,500 feet. No. 2 Farquhar is round 3,815 feet. No. 5-A is drilling at 4,654 feet and No. 6 around 3,100 feet.

Spindletop Operations

The Magnolia Petroleum Co.'s No. 3 fee at Spindletop bailed water at 5,190 feet. The Sun Oil Co. pulled 8 feet of strainer from No. 10 McLean at 3,925 feet. The Yount Lee Oil Co.'s No. 29 Gladys went into rock salt at 2,915 feet and was abandoned. No. 30 Gladys is setting strainer at 2,516 feet to test a sand showing oil.

On the McFaddin lease, the Yount Lee Oil Co 's No. 13 is drilling at 4,614 feet in shale showing gas. No. 29 was cored at 4,825 feet. No. 31 is idle at 4,955 feet with the bit in a sand showing oil. No. 33 is drilling around 4,010 feet, No. 34 is below 1,000 feet and No. 35 set 10-inch casing at 1,020 feet.

The Yount Lee Oil Co.'s No. 6 fee is pulling liner. No. 15 fee is at 3,970 feet in hard sand and shale showing oil.

On the Gladys lease, No. 1 is deepening at 5, 043 feet. No. 26 is taking a core of the formation at 5,130 feet. No. 28 is milling.

Jefferson County

Fannette Dome: Gulf Production Co.'s No. 3 Bordages in a sand showing oil at 5,300 feet, cored 6 feet of sand. Casing will be set for a test.

Big Hill Dome: Houston Oil Co.'s No. 2 Fitzhugh is drilling around 2,700 feet. The Leonard Petroleum Co., near Port Arthur, is drilling around 3,816 feet.

Brazoria County

Allen Dome: The Roxana Petroleum Corp.'s No. 1 Bernard River, which came in May 17 at 5,131 feet, credited with 1,500 bbls. initial and then dropped off to 700 bbls. through five-eighths inch choker, has quit flowing and is being worked over. A location has been made for No. 2.

Clemens Dome: Roxana Petroleum Corp.'s No. 1 Bell, showing gas at 2,012 feet. No. 2-A Pabst is drilling around 3,420 feet. No. 4 Clemens is at 4,765 feet.

Stratton Ridge Dome: Gulf Production Co.'s No. 2 Perry is fishing at 3,150 feet. The Pure Oil-Humphreys Corp.'s No. 1 Armstrong is drilling around 3,100 feet. The Associated Oil Co.'s No. 1 Seaburn is in a sand at 4,094 feet, showing oil and gas.

Near Anchor: Staley and others' No. 1 Glover is drilling at 1,055 feet.

Hinkle Ferry: Stark and others' No. 1 Hinkle, drilling around 500 feet.

The Texas Company is rigging No. 1 Carter near Pledger.

Fort Bend County

Long Point Dome: Gulf Production Co.'s No. 3 Trone, on the east flank, is drilling around 707 feet. No. 2 Wolfe is at 687 feet. A location has been made for No. 25 Davis.

Matagorda County

Hawkinsville Dome: Gulf Production Co.'s No. 8 Craig is drilling around 4,840 feet. No. 3 Parkinson is at 990 feet and No. 2 Sanborn is deepening at 3,123 feet. The Matagorda Development Co. has a derrick for No. 1 Hawkins.

Harris County

Hockley Dome: Humble Oil & Refining Co.'s No. 1 Warren is around 2,315 feet. The Juniata Oil Co.'s No. 1, north of Cypress, is below 450 feet. Dr. P. S. Griffith's No. 2 fee is shut down at 3,330 feet.

Orange County

Gum Island: Miller Drilling Co.'s No. 1 Brown is around 2,928 feet. W. C. Wells' No. 1 Sark, at Adams Bayou is drilling below 2,990 feet.

Austin County

Raccoon Bend district: Humble Oil & Refining Co.-Valley Oil Co.'s joint No. 1 Bellville School lands is drilling at 3,490 feet. No. 2 Reese is below 3,245 feet.

Hickory Mound: R. E. Graves' No. 1 Cleveland is around 1,300 feet.

Bellville: Mewis and others' No. 1 Mewis is below 1,300 feet. Kane and others' No. 1 Knolle is drilling at 735 feet.

Angelina County

The Roxana Petroleum Corp.'s No. 9 Long Bell Lumber Co. lands is drilling as a formation test.

Montgomery County

Brain and others' No. 1 Fitch, northeast of Spring, is drilling around 2,360 feet. Russell and others' No. 1 Beard is a location.

Nacogdoches County

Morris Williams' No. 1 Williams is a derrick. Steine and Lewis' No. 1 Bridwell is standing idle at 1,085 feet.

Washington County

Pratt-Hewitt's No. 2 Konieczy is drilling around 3,055 feet. C. A. DeWare's No. 1 Lehman is below 2,745 feet.

Tyler County

Jasper Oil & Gas Co.'s No. 1 Stone is a derrick.

Colorado County

F. E. Waldrop's No. 1 Tait is a location.

Shelby County

Magnolia Petroleum Co.'s No. 1 Pickering is drilling around 2,200 feet. The Arkansas Fuel Oil Co.'s No. 1 Bouland has the drill stem stuck at 3,720 feet.

SOUTH LOUISIANA

Calcasieu Parish

Stark Pool: Gulf Refining Co.'s No. 5 Lutcher-Moore is drilling around 4,600 feet. Same company's No. 1 Industrial Lumber Co. lands is below 3,700 feet, taking a core of the formation.

Sulphur Dome: Union Sulphur Co.'s No. 720 fee is sidetracking at 4,395 feet. Doctor Hintze's No. 1 Binkenstein is fishing at 4,260 feet.

Calcasieu Lake: Border Research Co.'s No. 1 is drilling around 4,725 feet.

Cameron Parish

Hackberry Dome: Yount Lee Oil Co.'s No. 10 Gulf land is drilling around 3,000 feet. No. 4 State land is below 3,620 feet and No. 6 School land is idle at 5,310 feet.

Sweet Lake Pool: Pure Oil Co.'s No. 4 is drilling around 3,000 feet and No. 5 is below 3,730 feet.

The Calcasieu Oil Co.'s No. 1 Caldwell is drilling below 450 feet. The Border Research Corp.'s No. 1 in Sabine Lake is drilling around 1,650 feet. No. 1 in Mallard Bay is idle at 2,690 feet.

Iberia Parish

Eagle Point Dome: Gulf Refining Co.'s No. 2-Z is idle at 1,365 feet. The Calcasieu Oil Co.'s No. 1 Schwing is standing at 3,000 feet. The Border Research Corp.'s No. 1 in Vermillion Bay is preparing to resume drilling at 1,010 feet.

Evangeline Parish

Pine Prairie Dome: The Texas Company's No. 2 Guillory is drilling below 4,835 feet.

St. Mary Parish

The Border Research Corp.'s No. 1 West Cote Blanche is drilling around 655 feet. No. 1 in Grand Lake is idle at 4,519 feet.

Jeff Davis Parish

The Estropal Oil Co.'s No. 2 Le Deux is shut down at 2,980 feet.

Damon Mound (Texas)

No wells have been completed in the Damon Mound Pool for two years, but the daily average is maintained by careful handling of the wells. The pool is 10 miles northwest of West Columbia and 9 miles south of the Big Creek Pool. It is in Brazoria County. The Sinclair Oil & Gas Co. has most of the production there, with J. E. Hooper in charge as superintendent. There are 41 wells in the pool, all being pumpers, and all are handled from a central power.

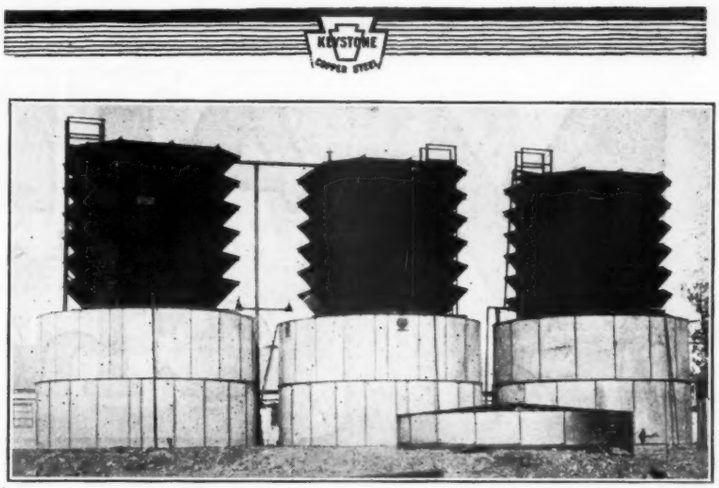
CANADIAN FIELDS

(Continued from Page 57)

ported erecting a derrick for a second test for gas by Northwestern Utilities, Ltd.

Border Field

In the Border Field, the Sweetgrass group which has been testing the deep oil show in Urban Oils, Section 4-1-15w4, in the lime at 3,420 feet, has discontinued pumping after 10 days, as the production was not sufficient to pay for pumping. The well has been abandoned. South of Skiff, in the Foremost area, Devenish



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Here is a case where timing counts—where your supplier, like the trapeze performer, must be prepared to swing out to meet you at exactly the right time.

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The next time you find yourself needing assistance in meeting an emergency, let the Mathieson organization show you how it is geared to furnish "hurry-up" cooperation. But at any time—emergency or not—in order to secure dependable and uniform quality from a reliable source, specify Mathieson Industrial Chemicals.

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Deal Direct with the Manufacturer

Petroleums LSD 5, Section 27-5-14w4, is down to 3,000 feet and underreaming to lower the 8¼-inch casing. Traces of oil were indicated some time ago around 2,950 feet. In the Pincher Creek area, southwestern Alberta, Mount Royal Oil Co. No. 1, LSD 4, Section 7-6-1w5, is setting up a pump to handle the water supply; after which the test will be spudded in.

On the Montana side, the Montana-Major well in the Central Field, in which Canadian capital is interested, is reported at 1,200 feet with 10-inch casing set and water shut off.

Southeast of Sweetgrass, the S. Hart Green-Lerum No. 1 SW, Section 11-37-2w, which got a promising show of oil in the Ellis sand at 2,335 feet, is in trouble with about 200 feet of caving below the 5⅜-inch casing. There is considerable oil and gas, with a certain amount of water thought to be coming from higher levels than the Ellis. If the water can be controlled, the well will likely be a commercial producer. The location is 2 miles south of the Alberta boundary. The test was financed largely by the Kyle interests of Winnipeg, Manitoba.

At New Dayton, Alberta the Miami colony of Hutterites has installed a reserve tank and distributing system to make use of the natural gas flow struck some time ago in drilling for water.

British Columbia

In British Columbia, operations are being resumed in the Sage Creek section. The B. C. Oil & Development Co., which last year began its No. 1 well and shut down last fall at 3,250 feet with a show of oil, sent in a caterpillar tractor with a load of equipment from Columbia Falls, Idaho, before the snow was off the ground. It is reported that No. 2 well will be spudded in as soon as a standard outfit can be hauled in. The Glacier Oil Co. has resumed drilling on its Sage Creek test at 3,215 feet, and is now reported at 3,260 feet with a fair show of amber-colored oil. The United States Forestry Department is clearing the roads in the direction of the border and putting them in shape for hauling by truck. Columbia Falls and Kalispel are the nearest points to the field. It is estimated that the B. C. Oil & Development Co.'s No. 2 will cost $75,000 and it is hoped to complete the test this season.

In Saskatchewan, the Simpson Oil Co., Section 9-29-25w2, is reported drilling in a hard formation, after passing through a horizon in which sand and gravel were forced up by gas. The rotary drill is working between 300 and 400 feet. The Big Six Oil Co. of Saskatoon is arranging to drill on its holdings near Kenaston. The acreage has been examined by J. H. Voorhees, geologist, of Great Falls; seepages of high grade paraffin base crude have been found in water wells, and the presence is indicated of a major transverse fault crossing an anticline of limited area. A test drilled some years ago at Hanley to considerable depth gave a little gas production and shows of oil at several horizons. The Paragon Development Co. of Winnipeg, Manitoba, capitalized at $250,000 under Dominion charter, is arranging to drill a test near Davidson, Saskatchewan, on acreage lying between Kenaston and Davidson. J. F. Moodie of Calgary reported on the acreage.

Ontario

In Ontario, Union Natural Gas Co. is drilling No. 267 in Romney Township, Kent County, in the southern portion of the Tilbury Field. Union No. 15 is drilling in Dawn Township, Lambton County. In Perth County a local syndicate is arranging for a deep test near St. Mary's. There has been no drilling in recent years in Perth County and it is a new prospect for commercial oil and gas production. Small showings of gas have been struck at various times in shallow wells. In 1863 a small show of oil was encountered in a test drilled at St. Mary's to 700 feet depth. Later some drilling was done for salt; and in 1890 a well was drilled at Stratford by the Stratford Natural Gas Co. to 2,386 feet without finding gas. Drilling has been mainly in the Onondaga and Salina formations, though one test went 300 feet into the Medina, and the Stratford test got the Trenton limestone at 2,360 feet and drilled into salt water at 2,384 feet.

ARTESIA, NEW MEXICO

(Continued from Page 55)

southeastern territory show one location; 21 active drilling wells, 26 shut down drilling wells, and 2 rigs up.

In Chaves County, Sparrow & Drake were preparing to abandon their No. 1 Farrlander, SE cor. SW, Section 11-6s-27e, cause not learned. The Texas Production Co.'s No. 1 Dunken Dome, Section 29-17s-18e, was drilling below 3,565 feet.

In Eddy County the Hammond Oil Co.'s No. 1 Patent, NE cor. SE SW, Section 15-16s-25e, was drilling at 1,087 feet. The Texas Production Co.'s No. 1 Permit, NE cor. SW, Section 25-16s-31e, passed through salt at 2,120 feet, set 10-inch pipe at 2,133 feet and was fishing at 2,340 feet. W. A. Stone's No. 1 Knulick, SW cor. NW NW, Section 25-17s-26e, was stringing up standard tools after drilling to 1,250 feet with a rotary outfit. Wooley-Jones were fishing for 10-inch pipe in No. 1 permit, C SW, Section 21-17s-26e. Flynn, Welsh & Yates' No. 4 Dunn, SE cor. SW, Section 10-18s-28e, was drilling below 1,700 feet. Marland Oil Co. was straight-reaming 10-inch hole (total depth 2,480 feet) in No. 1 permit, CWL, Section 11-20s-30e. Superior Oil Co.'s No. 1 Keck, SW cor. NW, Section 33-23s-28e drilled to 877 feet and shut down for 12-inch casing.

The Midwest Refining Co. was stringing up standard tools on No. 1 Terry, SW cor. NW, Section 15-18s-26e, total depth 840 feet.

In Lea County Leonard Levers was drilling at 3,880 feet in No. 1 State, SE cor. SW, Section 11-16s-32e. Inglefield Bridges' No. 1 State, SE cor., Section 4-17s-34e was rigging up. The Exploration Co. was fighting cave in No. 1 Patent, C NE, Section 25-19s-35e. Covert and others' No. 1 State, NE cor. NW, Section 15-21s-33e was drilling below 3,875 feet. The Texas Production Co.'s No. 1 Rhodes, NW cor., Section 22-26s-37e was running pipe at total depth 2,798 feet.

In Socorro County Seipple and others' No. 1 Stone, NE cor., Section 23-4n-1e was drilling below 2,400 feet. Arnold and others' No. 1 fee, SE cor. NE, Section 13-6s-1w drilled to 1,690 feet and shut down.

In Valencia County W. E. Stone and others' No. 1 Horland, NE cor. SW, Section 32-7n-2e was fishing for drill stem.

SOUTHWEST WILDCATS

(Continued from Page 53)

feet to west line, is rigging up. Milham Corp.'s No. 2 Salinas, Porcion 111, SE cor., is drilling at 4,279 feet.

Webb County

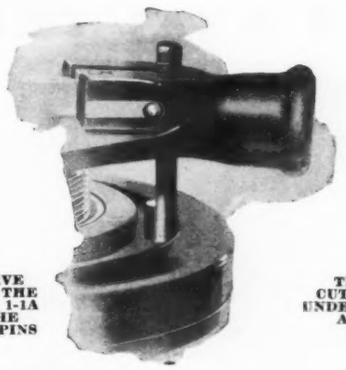
B. L. Kay's No. 1 N. H. Brown is location 22 miles southwest of Catarine on 10,000-acre lease. Killam-Maddox' No. 1 Bruni, Survey 4, Block 5, located 150 feet to northeast and southeast lines, is at 2,317 feet steel line measure. Rio Grande Oil Co.'s No. 1 Urbahn Santo Tomas tract, 10,000 feet to south line and 20,000 feet to east line, is moving on to resume at 1,600 feet. O. W. Killam's No. 1 Billings, SE NW, Survey 43, located 150 feet to south line and 750 feet to west line, is drilling at 3,700 feet.

Bexar County

Allen Burnam's No. 1 Ward, southwest of Martinez on R. A. Ward 164-acre tract, 600 feet to north line and 2,400 feet to west line, has derrick up and moving in rig. A. R. Beal, Trustee's No. A-1 Ackerman, Survey 133½, is standing at 601 feet dry, and may drill deeper.

Zapata County

H. H. Galbraith's No. 1 M. A. Hirsch, Javali Survey No. 595, is location in NE cor. Buffalo-Erie's No. 1 Burtrand, Survey 627, is location 3,239 feet to northeast line and 500 feet to northwest lines. E. K. Bateman's No. 2 Vela, Block 4, S. Vela 3,792-acre lease, at 675 feet



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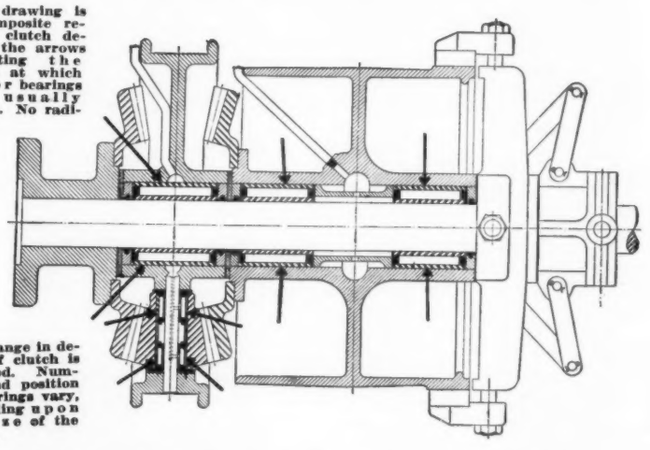
This drawing is a composite reverse clutch design, the arrows indicating the points at which roller bearings are usually placed. No radical change in design of clutch is required. Number and position of bearings vary, depending upon the size of the clutch.



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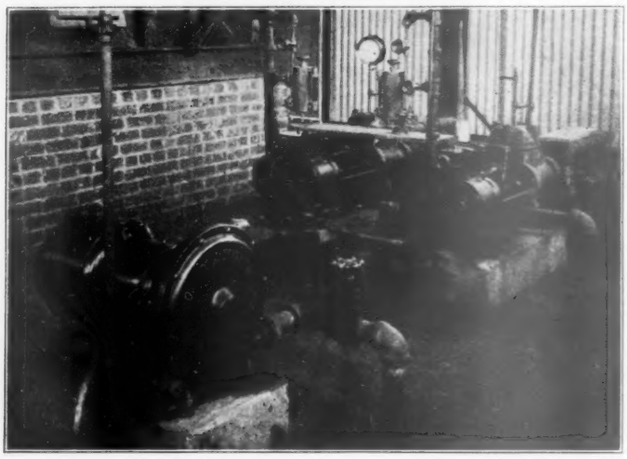
AMERICAN HEAVY DUTY TYPE "C" ROLLER BEARINGS

THE REAL TEST



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to northwest lines and 417 feet to northeast lines, is nearly ready to spud in and will diamond core most of the 3,500 feet. Roxana Petroleum Corp's No. 1 E. Lopez has derrick up on lease. J. H. Winch's No. 1 Bustamente, Share 10, Block 8, located 150 feet to northeast and southeast lines, is drilling at 1,420 feet.

Bastrop County

The Texas Company's No. 1 Goertz, Survey 349, located 200 feet to west line and 150 feet to south line, topped Edwards at 3,046 feet and got sulphur water and was abandoned at 3,100 feet.

Bee County

W. S. Poole's No. 1 Billingsley, is location 7 miles west of Pettus, and is preparing to drill. D. Hewitt's No. 1 G. A. Ray, 1½ miles west of Pettus, is drilling. W. S. Poole's No. 1 J. C. Wood is location 5 miles southeast of Beeville. Nichols & White's No. 1 Hicks, Hicks-Ball Survey, Block 19, NW cor., is shut down at 1,200 feet.

Brooks County

The Texas Company's No. 1 Lasater, Survey 329, located 1,250 feet to north line and 1,100 feet to east line, is rigging up.

Caldwell County

Sutton & Smith's No. 2 Carter, Green Hindes Survey, located 300 feet east of No. A-1, is location; No. 1 J. L. New, James Hindes Survey, located 150 feet to west line and 600 feet to south line, has 112-foot derrick up. Calco Petroleum Co.'s No. 2 Thomas, located 600 feet southeast of Kuhn & Armstrong's No. 1, is skidding derrick and rig. Detex Oil Co.'s No. 1 Hardeman, 4 miles north of Luling, is drilling at 2,500 feet in old hole after sidetracking tools at 1,200 feet. Joe Bruner-Dr. Ritchie's No. 1 W. F. Davis, Salt Flats at 2,538 feet is bailing with casing set at 2,384 feet. Sutton & Smith's No. A-1 Carter, G. Hinde Survey, 150 feet CWL, is fishing at 2,597 feet for 8-inch.

DeWitt County

Eduoard Raymond's No. 1 Boldt, James Lasater Survey, 800 feet to south line and 1,125 varas to east line of 250-acre W. R. Boldt tract, has been delayed spudding in by work on titles. G. O. Williams and O. L. Gate's No. 1 Oscar Gohmert, G. W. Brooks league, 175 feet to north line and 300 feet to east line, has been spudded in. McNeill & Matthews No. 1 A. D. Kaiser, A. Dillard Survey, 1,508 feet to NW cor., is shut down at 2,500 feet. Yoro Development Co.'s No. 1 Tully, located 1 mile from No. 1 Tom Burns, spudded in and shut down.

Dimmitt County

Humble Oil & Refining Co.'s No. 1 City National Bank, Survey 654, located 700 feet to north line and 2,000 feet to east line, is drilling in very hard rock at 2,500 feet.

Frio County

P. A. Neilan's No. 1 Blackaller, James Gouley Survey, fishing at 3,005 feet for drill stem and tools.

Fayette County

Merritt Drilling & Development Co.'s No. 1 Svreck, W. T. Townsend Survey is location 300 feet to east line and 1,400 feet to south line. La Fayette Oil Co.'s No. 1 Marquardt, J. R. Phillips Survey, 976 feet to northwest lines and 400 feet to southwest lines, is drilling.

Guadalupe County

H. H. Temple's No. 1 McAllister, Edward Kellett Survey, 450 feet to northeast lines and 1,420 feet to northwest lines, is moving on large derrick, total depth 750 feet. F. A. Lain's No. 1 F. C. Weinert, W. K. Estell Survey, 150 feet CNL, is drilling at 2,700 feet.

Hays County

J. E. Rodgers No. 1 Hohenburg, 2½ miles east of San Marcos, is underreaming at 1,120 feet to lower 6⅝-inch casing.

Jackson County

Houston Gulf Gas Co.'s No. 1 White, Gale Survey, center of east 20 acres, is drilling at 1,900 feet.

Karnes County

Alamo Drilling & Leasing Co.'s No. 1 Szalwinski, Manchaca Survey, 500 feet to northeast lines and 200 feet to southeast lines, at 2,011 feet showed sandy shale and has been abandoned dry.

Kerr County

Walker-Van Duyn's No. 1 W. B. Leigh, Survey 38, located 500 feet north of river and 150 feet south of railroad, at 2,250 feet resumed drilling and made small hole encountering gas showing with tools sidetracked, and they dropped back in the hole and crew is fishing again.

Kinney County

W. A. Stephens and others' No. 1 Jim Clamp, Section 1,492, Survey 345, located 5,362 feet to west line and 5,674 feet to south line, is drilling at 580 feet in Taylor Marl, topped at 60 feet. Havelin Oil Co.'s No. 1 Weatherby, Section 21, Block 5, is fishing at 4,305 feet for bailer.

Lavaca County

Steinman Brothers' No. 2 Steinman (fee) located 100 yards from No. 1 and 4 miles southeast of Yoakum, is drilling at 3,100 feet.

Lee County

Bowers and others' No. 1 Brenbaum, located 2 miles east of Monheim and 200 feet to NW cor. of lease, is drilling at 1,473 feet. M. O. Ricketts and others' No. 1 Sanders, Joseph Maximillian league 250 feet to SE cor., is standing at 800 feet.

Live Oak County

R. P. Lightfoot's No. 1 Cavit, northwest of Coquat wells, has been spudded in. Stovall & Kelly's No. 1 Stewart, William J. Cannon Survey, 200 feet to Nueces river and the west, is location for test. Warren Wood Hunt (Delta Oil Co.) No. 1 B. McNeil, Jan Curry Survey, 4,000 feet to NE cor., is shut down at 530 feet. Simmons Oil Co.'s No. 4 Sartain, Simms tract, western edge of county, is shut down at 1,609 feet. J. W. Walton's No. 1 Roberts, west of Three Rivers, is standing at 1,837 feet.

Medina County

Marland Oil Co.'s No. 3 San Antonio Trust, Survey 21, located 660 feet to NW cor., has been abandoned at 1,484 feet in the top of the chalk. Schermerhorn Oil Co.'s No. 5 Medina Valley Farms, Survey 31, Block 3, located 2,500 feet north of No. 1, has been abandoned at 2,107 feet in the Edwards dry, with the formation topped at 2,030 feet. C. W. Simpson's No. 1 Blocker, Survey 20, located 150 feet to north line and 305 feet to west line, is drilling on rock at 100 feet. Witherspoon Oil Co.'s No. 2 Redus, Survey 92, is plugging back from 1,122 feet at which depth it tested salt water. R. P. O'Brien's No. 1 J. C. Nixon, Survey 531, at 1,007 feet has had rig removed and well is to be put on the pump. Fennell & Williams' No. 2 John Fohn Survey 115, east 100 acres, has been abandoned at 1,875 feet in the Edwards topped at 1,789 feet and dry.

Maverick County

Ryan Consolidated Petroleum Corp.'s No. 1 Indio, Survey 14, center, at 1,200 feet had 12½-inch casing collapse and are waiting orders. Johnstone & Hunt's No. 1 Whipff, 9 miles from Eagle Pass, is shut down at 1,220 feet. Rycade Oil Corp.'s No. 1 Chittim, at 5,592 feet is moving on rotary rig to complete fishing job; No. 2 Sullivan at 3,832 feet had casing collapse.

McMullen County

E. R. Marts' No. 3 Farmers Life, Survey south of No. 56, is location 2,000 feet to south line and 4,000 feet to east line; No. 8 Poitevent, Survey 56, is location 1,250 feet to south line and 150 feet to southwest lines. C. H. Atherton is making location for No. 1 Lark. R. L. Taylor's No. 1 Shiner Survey 8, located 150 feet to NE cor., is abandoned dry at 2,500 feet; No. 2 Shiner, Survey 14, located 150 feet to SW cor., is having rig skidded over from No. 1. Nelson & Woods' No. 1 Shiner, Survey 48, Block 74, located 1,000 varas to east line and 350 varas to south line, is shut down at 783 feet. George Pickett's No. 1 Jacob, Survey 7, located 660 feet CNL and north of Calliham Field at 2,960 feet is drilling in hard gray sand stone, probably Mount Selman, with small gas showing at 760 feet and no water except surface water.

Val Verde County

Magnolia Petroleum Co.'s No. 1 Whitehead, Survey 81, located 1,900 feet to west lines and 900 feet to south line, is shut down at 100 feet. Douglas Oil Co.'s No. 1 Sellers, Section 82, Block A, at 2,940 feet had rig burn down. Hiawatha

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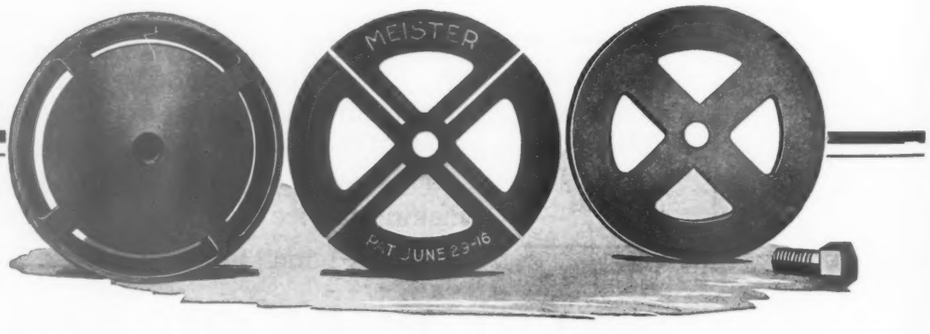

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Wichita Falls, Tex. J. W. Noland
Putnam, Tex. Putnam Supply Co.
Bradford, Pa. Bradford Supply Co.

Oil Co.'s No. 1 Sellers, Section 1,031, Block A, is drilling in black shale at 3,520 feet. Crusoe Williams' No. 1 Holman, Section 5, Block N, is fishing for two bits at 2,890 feet. O. O. Owens and others' No. 1 Henry Mills, Section 145, at 2,540 feet had small show of gas and is drilling. Independent Operator's No. 1 Whitehead, SE SE, Section 30, Block 4, is shut down in lime at 3,900 feet. Al Blume and others' No. 1 Moore estate, Section 183, is shut down at 2,676 feet. East Del Rio Oil Co.'s No. 1 Russell, Section 183, east corner, is straightreaming at 3,100 feet to shut off water at 3,115 feet.

San Patricio County

Huber & Crawford's No. 1 Mathis, Block 17, Delgavo Survey, 300 feet to northwest lines and 2,500 feet to southwest lines, is shut down at 2,516 feet. John Sigmund's No. 7 McCampbell at 4,021 feet has set casing.

Victoria County

R. M. Talbott's No. J. R. Reeves estate, located 2,000 feet to west line of estate, is shut down at 750 feet.

Williamson County

Fritz Fuchs' No. 1 John Kubicek, NE cor. of farm and 4 miles northwest of Thrall Field, is rigging up. Petoskey Oil Co.'s No. 1 Stewart J. Dovilla Survey, is location 400 feet to north line and 300 feet to west line. Watercress Oil Co.'s No. 1 Fowler, D. D. Fowler farm, is moving in rig.

MEXICAN FIELDS

(Continued from Page 48)

is rigging; its No. 144 Isleta, Panuco, is waiting for 8-inch casing with the hole at 1,020 feet, caving shale delaying operations. Drillers' Percentage Association's No. 2 East Maguabes is in gray lime at 1,770 feet. Cia. Pet. Francia Mexico's No. 26, Lot 25 East Maguabes, drilled to 2,350 feet, gray lime, and is shut down temporarily; in the Buena Vista, its No. 28, Lot 10, has cemented 8-inch in gray lime at 1,480 feet, and it has a derrick over location in Lot 12. International Petroleum Co.'s operations in Lot 8, Cacalilao, follow: No. 310 is in gray lime at 2,004 feet, with 1,400 feet of salt water standing in the hole; Nos. 311 and 312 are each in gray lime at 1,745 and 2,010 feet, respectively; No. 314 has cemented 10-inch in gray lime at 1,190 feet. Mexican Sinclair Petroleum Corp.'s No. 209, Lot 3 Cacalilao, is in the Tamasopa at 1,780 feet, with an oil show; its No. 212 is fishing in gray lime at 1,500 feet, and three derricks are up in Lot 2, one in Lot 1. In its No. 18 W. Maguabes, the drill is in limestone at 1,860 feet. Transcontinental Petroleum Co.'s No. 213 Lot 2 Cacalilao is in gray shale at 710 feet; its No. 284, same, has cemented 8-inch in gray lime at 1,200 feet; No. 287 is in lime at 2,150 feet. Cia. Pet. Territorial No. 41 Salvasuchi continues fishing in gray lime at 1,760 feet. In its Panuco River right of way, National Lines' operations follow: No. 144 is in gray lime at 1,910 feet; No. 143 is moving in. In the Champayan, Tamesi River, its No. 140 is in gray and brown lime at 1,716 feet.

Northern Fields Miscellany

Mexican Petroleum Co.'s operations at Ebano and in other northern fields sectors are as follows: No. 35 Ebano is in gray lime at 2,230 feet; No. 37 is in gray shale at 220 feet; its No. 68 Midway is in white lime at 2,140 feet; No. 70 is in gray lime at 1,529 feet. In the La Dicha, No. 133 is in gray lime at 1,598 feet; No. 139 is rigging; No. 141 is in gray shale at 550 feet; No. 151 is in gray lime at 1,326 feet; No. 152 is in gray and green lime at 2,130 feet; No. 119 East Dicha is in gray lime at 1,200 feet; No. 132 is in gray lime at 1,178 feet. In the Chijol, its No. 70 and No. 72 are in gray lime at 1,490 and 1,320 feet, respectively; its No. 36 Pedro is in green lime at 1,590 feet. In the Salinas sector, its No. 3 Shepard is in brown lime at 1,600 feet; No. 6 is in gray lime at 1,480 feet; its Nos. 1 and 2 Budd are each in gray lime at 1,470 and 1,460 feet, respectively; its No. 3 Von Pheul is in blue shale at 1,235 feet. Down in the Caracol sector, Mexican Petroleum has four locations rigging, and three drilling as follows: No. H-29 in clay and sand at 135 feet; No. V-57 has cemented 10-inch in gray lime at 1,795 feet; No. V-62 is in gray shale at 740 feet. National Lines' No. 60 Conteca, in the right of way, is in shale at 218 feet; its No. 61 is in brown lime at 2,570 feet; No. 71 is in gray lime at 1,995 feet.

In the Hacienda Limon, Cia. Pet. Franco Espanola (Marland) is drilling as follows: No. 52-A Limon is in gray lime at 1,970 feet; No. 63-A is in gray shale at 275 feet; No. 90 is in shale and gumbo at 1,323 feet; No. 98 is fishing broken cone at 2,120 feet; No. 101 is in gray shale at 1,295 feet.

Corona Petroleum Co.'s No. 35, Lot 6 Corcovado, is in lime at 2,450 feet. International Petroleum Co.'s No. 17, Lot 6 Corcovado, has cemented 8-inch in gray lime at 1,250 feet.

Mexican Gulf Oil Co.'s No. 28 Salinas is in sticky shale at 1,425 feet; its No. 49, same, is in a similar formation at 910 feet.

South Fields

For the first time in many a year the south fields see but three tests actually making hole, with a derrick going up over a fourth location. Huasteca Petroleum Co.'s No. 98 Tierra Blanca is in gray shale and broken lime at 2,107 feet. Millan and others' No. 4, Lot 191 Amatlan is in shale at 205 feet. Mexican Eagle Oil Co., Ltd.'s No. 34 Lagunda de Tamiahua is in sandy shale at 2,490 feet. Mordelo Vincent's No. 9, Lot 8 Tepetate, is a derrick.

LA.-ARK. WILDCATS

(Continued from Page 50)

in No. 1 Crockett, Section 6-12-14. The 10-inch casing was cemented at 100 feet.

Claiborne Parish

Magnolia Petroleum Co. is drilling in red shale at 3,609 feet in No. 1 Lee, Section 16-22-8. Mitchell & Jensen's No. 1 Wilburn, Section 23-19-7, also is in shale at 3,035 feet. Tate and associates are drilling gumbo at 2,200 feet in No. 1 Maddox, Section 21-23-7.

DeSoto Parish

Beery & LeGrande are moving in a rig for No. 1 Giauque, Section 3-10-11. Hoosier Oil Co. has cemented 6⅝-inch casing at 2,582 feet in No. 1 Lanier, Section 5-11-11. Magnolia Petroleum Co.'s No. 1 Logan, Section 17-10-12, is shut down for fuel. Total depth of the hole is 2,998 feet. Reliance Drilling Co.'s No. 1 Jones, Section 8-11-14, is in shale at 1,853 feet. William Sebastian's No. 1 Sebastian, Section 11-10-19, is reaming to the bottom. The hole is at a depth of 3,380 feet. Seip and associates' No. 1 Robinson, Section 18-10-12, has resumed drilling and is down 1,350 feet. The Texas Company has completed No. A-12 Wemple, Section 2-12-12, pumping 26 bbls. from a depth of 2,438 feet.

Grant Parish

Paulette and associates have a rig up for No. 2 Holmes, Section 17-9-1e. Rue and associates' No. 1 Elias & Williams, Section 10-7-4w, is reaming to the bottom at 1,913 feet. Swope and associates' No. 2 fee, Section 18-9-1e, is at 1,575 feet, where 6-inch casing has been set. Tunica Petroleum Co. has set 10-inch casing at 79 feet in No. 1 O'Bannon, Section 38-7-1e.

LaSalle Parish

Tunica Petroleum Co. has abandoned as dry at 801 feet No. 1 Hardtner, Section 9-7-2e. In the same section this company is drilling at 600 feet in No. 29. L. & A., has a rig up for No. 32 L. & A., and has started a derrick for No. 33 L. & A. This also is in the same section where this company abandoned temporarily two tests the previous week, No. 28 L. & A., and No. 1 Whately.

Natchitoches Parish

E. O. Readheimer has abandoned as dry at 1,533 feet No. 1 Blewer, Section 10-11-8. Ohio Oil Co. is drilling at 2,300 feet in No. 1 Thomas, Section 23-13-6w.

Rapides Parish

George Sabatier and associates are drilling at 1,200 feet in No. 1 Ritchie, Section 38-5-4.

Red River Parish

Alden Oil Co. has resumed drilling at

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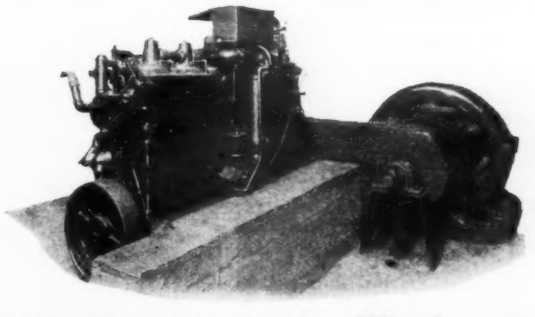

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No. 1 Powell, Section 13-11-10, after being shut down since early in March. It is down 2,400 feet. Hazlett & Simmons have a new test in No. 1 Neeley, Section 1-14-12, which is down 200 feet where 10-inch casing has been set. Gulf Refining Co. got a 38-bbl. pumping well in No. 23 Kennedy, Section 24-13-11, which has been completed at 2,551 feet.

Richland Parish

Gulf Refining Co.'s No. 2 Rhymes, Section 5-16-6e, has been shut down at 2,880 feet, at which depth a 15,000,000 gas flow was put under control.

Sabine Parish

Lewis Clark Petroleum Co. has abandoned as dry at 4,520 feet. No. 1 Wyatt, Section 23-5-12. Arkansas Fuel Oil Corp. has cemented 6⅝-inch casing at 3,090 feet in No. 2 Logan, Section 28-10-12. No. 7 Logan, Section 33, has drilled out the 6⅝-inch plug cemented at 3,074 feet and is down 3,092 feet. No. 6 Logan same section is drilling in chalk rock at 2,000 feet. No. 8 Logan is in sand and shale at 2,123 feet, and No. 9 Logan is in sand at 2,270 feet. This company's No. 1 Horn in Section 33, is drilling at 705 feet, while No. 1 Williams is at 1,905 feet. No. 1 Moore in Section 32 is drilling in hard lime at 3,104 feet. This company also has cemented 6⅝-inch casing at 3,175 feet in No. 1 Rembert, Section 5-9-12. A derrick is being built for No. A-1 Logan, Section 23-10-13.

L. M. Emlet has abandoned temporarily No. 5 Bowman, Section 9-7-12, after reaching a total depth of 4,070 feet. Drilling of a second hole for No. 7 Bowman, Section 14-7-14, has begun. The first hole was abandoned at a depth of 2,623 feet and the derrick skidded 60 feet west for the second hole, which is down 275 feet. No. 8 Bowman, Section 16-7-12, is drilling in rock at 549 feet. Louisiana Oil & Refining Corp. has drilled out the plug in No. 1 Logan, Section 28-10-12, and is drilling ahead in sandy shale at 3,144 feet. Magnolia Petroleum Co.'s No. 1 Hall, Section 33, is shut down for fuel at 2,205 feet. This company's No. 2 Louisiana L. L. L. C., Section 2-6-11, is drilling in shale at 806 feet. This company also has a rig up for No. 1 Renbert, Section 32-10-12. C. W. Robinson and associates' No. 1 Hamlin, Section 6-9-13, is drilling at 1,600 feet. Woodley Petroleum Co.'s No. 1 Robinson, Section 33-10-12, tested dry at 3,256 and 3,265 feet but has been drilled deeper to 3,298 feet where it is being bailed for another test.

Winn Parish

Greer & Gault have moved the rig and abandoned the hole at No. 2 Bodcau, Section 9-11-4w. They had drilled only to a depth of 18 feet. H. M. Roark's No. 1 Southern Minerals Co., Section 19-11-3w, struck rock salt at 437 feet and after being drilled to 800 feet has been abandoned. Standard Oil Co. also has abandoned No. 1 Tremont, Section 1-12-2w. It was in a hard lime at 4,024 feet. Humble Oil & Refining Co. has a derrick up for No. A-23 L. & A., Section 3-10-2w. H. L. Hunt's No. 1 Tremont, Section 27-10-1w, has been drilled to 1,450 feet and shut down. J. C. Long's No. 1 Milam, Section 28-13-3w, also has been shut down at 1,550 feet. It tested dry at 1,526 feet. Ohio Oil Co. is drilling at 2,460 feet in No. 1 McCarty, Section 5-12-1w.

ARKANSAS

Union County

C. H. Allison and associates are arranging to resume drilling in No. 1 Howard, Section 8-19-13. Garrett-Modisette Drilling Co. is arranging to abandon its deep test in the Lawson-Urbana district, the No. 1 Union Saw Mill Co., Section 7-18-13. It had reached a depth of 4,220 feet. Marine Oil Co. has cemented 6-inch casing at 2,706 feet in No. 1 Wynn Estate, Section 11-18-13. Ohio Oil Co. is reaming in No. 1 Crain, Section 1-17-14, to set 4¾-inch casing at 3,000 feet. Total depth of the hole is 3,014 feet. Ohio Oil Co. has a location for No. 1 Humphrey, same section. Simms Oil Co. is arranging to deepen No. 1 Ballard, Section 9-18-13. This test was completed last March at a depth of 2,556 feet pumping 300 bbls. of fluid, 98 per cent salt water. Sun Oil Co. is setting a short string of 6-inch casing at 2,640 feet in No. 1 Thompson, Section 10-18-13. It has a sand at 2,645-53 feet. Vaughan and associates are arranging to drill the plug in No. 1 Ezell, Section 12-17-15, with cable tools. The plug is cemented at 2,149 feet.

Ouachita County

Magnolia Petroleum Co. is drilling at 285 feet in No. B-1 Stout, Section 28-14-16. The 15½-inch plug was drilled out at 64 feet. Humble Oil & Refining Co. has set 10-inch casing at 199 feet in No. 1 Jenkins, Section 15-14-19.

Bradley County

Johnson & Adams have cemented 6⅝-inch casing at 2,200 feet in No. 1 Southern Lumber Co., Section 12-12-12.

Calhoun County

Arkansas Natural Gas Co. is drilling at 900 feet in a shale formation in No. 1 Stout, Section 2-13-14.

Clark County

Whelen Oil Co.'s No. 1 Burrow, Section 35-10-20, has been shut down at 2,350 feet.

Columbia County

Atlantic Oil Producing Co. is drilling in chalk rock at 2,346 feet in No. 1 Couch, Section 23-17-20. Golquitt & Thomas' No. 1 Duffer, Section 23-18-19, is in shale at 2,530 feet. Lion Oil & Refining Corp. has a rig up for No. 1 Pattee, Section 20-18-18. Mitchell & Eylers' No. 2 Bodcau, Section 4-20-21, is drilling in shale at 2,392 feet.

Grant County

Jones & Watkins are washing to the bottom in No. 1 Meek, Section 5-4-11. It is at a depth of 400 feet, where it has been shut down for a month at a depth of 400 feet.

Hempstead County

Arkansas Natural Gas Co. is drilling at 1,600 feet in No. 1 Goodlet, Section 34-10-26.

FARMINGTON, N. MEX.

(Continued from Page 44)

in the Bloomfield district, on the Ransom tract, Section 22-29-11, is drilling at a depth of about 300 feet.

Wiley-Craft, operating in the Bloomfield district on a lease agreement with R. M. Smith, are drilling at around 500 feet.

The Huerfano Oil Co., operating in the Bloomfield district on the Wiltbank tract south of the river, SE NW, Section 25-29-11, has 10-inch pipe set at 80 feet and is below the boulders and drilling.

The T. C. N. Oil Co., operating on the Ed Lanier permit in the Bloomfield district, Section 9-29-11, is underreaming and lowering 8-inch casing to shut off the water at a depth of 600 feet, preparatory to drilling in.

C. S. Ringle, drilling for Benedum-Trees in the Seven Lakes district, is pulling casing in No. 1 preparatory to moving 1 mile east and putting down a hole to the Dakota sands.

Hospah Structure

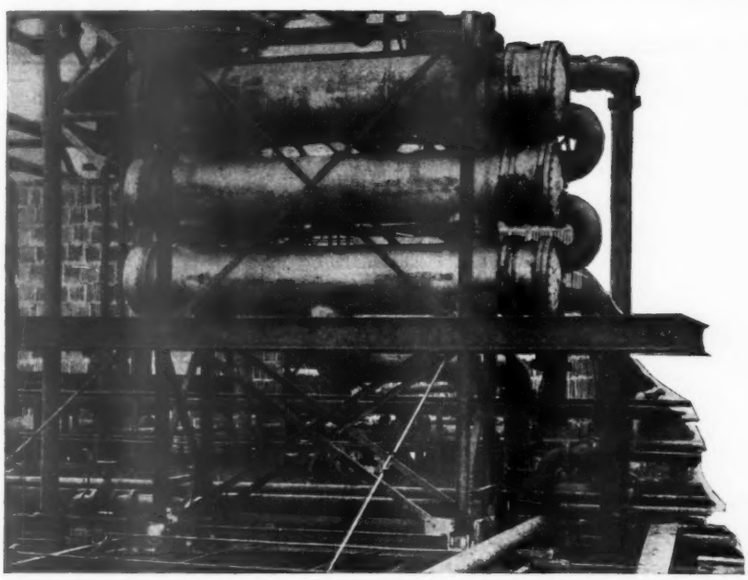
The Midwest No. 1, on the Hospah structure, Section 1-17-9, in the Seven Lakes district, has drilled past the string of lost tools and is drilling in the Mancos shale. No. 2, Section 2-17-9, is drilling below 1,000 feet, while rigging up is going on for No. 3.

The Senate Oil Co., operating in the Kutz Canon district on the Garland permit, Section 34-29-11, has decided to put in a rig to complete the hole in the Congress-National well and to do other drilling in this field. The rig will be trucked from the Amarillo Field. Glenn L. Coffee will go to Amarillo this week to supervise the shipment.

That drilling will be resumed on the Boundary Butte structure, 90 miles northwest of Farmington, is evidenced by the repairing of the water line to the drilling location and the invoicing of the material on hand at the time work was suspended by order of the Federal authorities. It is stated that the drilling will be done by the Continental Oil Co., when work starts with several of the larger companies interested.

The small well of the Burke-Taylor interests on the Mancos River Dome still holds out with an increased showing of production, it is reported. This shallow production will be tested further.

The G-R Sectional Condenser



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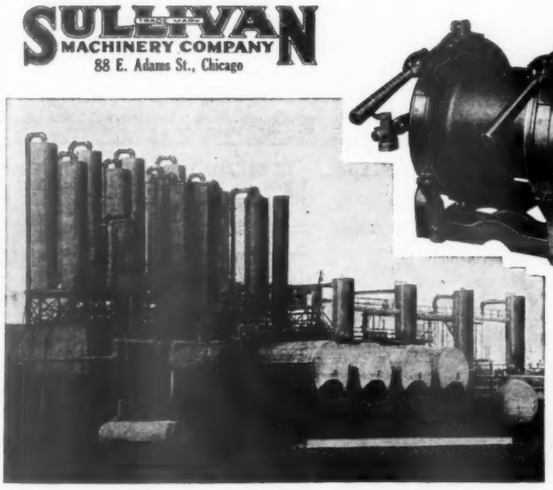

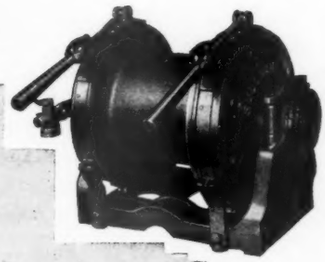

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Tulsa, Oklahoma

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LEASES—PRODUCTION

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LEASES—PRODUCTION

LEASES around the V. T. Bolin well in Howard's Draw, south central Crockett County, Texas, in direct trend from Yates Field across river in Pecos County. Well fully financed and now setting 10-inch casing at 2,110 feet; contract depth 3,500 feet. Write for maps, prices, etc. V. T. Bolin, 510 Floyd Holmes Bldg., Fort Worth, Tex.

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Fundamentals in Vapor Enrichment

Explain Laws on Which Construction of Equilibrium Vapor-Liquid Concentration Curve for Binary Mixture Are Based

By E. G. Ragatz*
Union Oil Co. of California

Although it is not often referred to in such a sense, a distillation units is as truly a heat energy conversion apparatus as is a steam power generating plant. In each case, work is performed through the controlled transfer of heat from a high temperature plane to a low temperature plane; the high temperature heat being inducted into the system by the combustion of fuel, and the low temperature heat being discarded to the atmosphere through the circulation of cooling water. In this paper we will attempt to visualize, from a simple theoretical viewpoint, just what is taking place in such a heat energy converting apparatus; why we can distill a commodity; what makes a still work; and how we can take advantage practically of the developed theory.

In operating a still, we usually deal with two phases of the material involved, liquids and vapors; and the physical laws governing the relationship existing between these phases under varying conditions of pressure and temperature constitute the fundamental upon which our present distillation practice is based. In petroleum practice these relationships become very complicated, due to the large number of compounds encountered in any single distillation effect. The principles involved, however, are in the main the same as those of the simple binary mixtures usually dealt with in the literature.

The successful operation of a simple still depends on the fact that when a liquid comprised of a mixture of light and heavy components is heated to a temperature sufficient to effect partial vaporization, the evolved vapors contain a higher percentage of light material than the remaining liquid. Starting in this premise, we will first discuss the reasons for this enrichment of the evolved vapors as applied to the performance of a theoretically perfect binary mixture, apply the developed theory to the construction of a simple theoretical still, and then point out wherein the practical commercial still deviates from the theoretical unit.

Physical Relationships

In dealing with the physical relationships existing between gases and lqiuids, we find it extremely useful to use a "yardstick," called a "molal weight."

In the case of a liquid, a molal weight is that weight (in any convenient scale, such as pounds or grams) of a liquid corresponding to the sum of the total molecular weight of the elements making up its chemical formula (the molecular weights of the elements, of course, being the ratio of the weight of any particular element atom to the weight of a hydrogen atom)—thus the molecular weight of water, with a chemical formula H_2O, is 18—corresponding to the sum of the weight of two atoms of hydrogen, $2 \times 1 = 2$, and one atom of oxygen, $1 \times 16 = 16$. The molecular weight of a liquid, in general, remains quite consistent under varying conditions of temperature and pressure.

In the case of a vapor or gas, however, we may better define its molecular weight as one-half the ratio of the weight of a given volume of the material at a given temperature and pressure to the weight of the same volume of hydrogen at the same temperature and pressure. For a perfect gas, such a molecular weight will correspond to the chemical formula weight; for practically all gases and vapors encountered in practice, however, the deviation of such a vapor weight from the formula weight may be large, and may vary considerably under varying conditions of pressure and temperature.

With these definitions of "mol weights" in mind, we will now proceed with the development of the simple physical laws involved in the phenomena of "vapor enrichment."

Boyle's Law: Boyle's law states that, at a constant temperature, the product of the pressure and volume of a fixed weight of gas is constant, or

$$PV = C$$

Gay-Lussac's Law: Gay-Lussac's law states that if a fixed weight of gas be heated, its volume, or pressure, or both, will increase; and that if it be heated 1 degree Centigrade from 0 degree Centigrade at constant volume, its pressure will be increased by 1/273 of its original pressure—or if heated 1 degree Centigrade from 0 degree Centigrade at constant pressure, its volume will increase 1/273 of its original volume. Although stated in terms of the metric system, a constant similar to the 273 of Gay-Lussac may be developed for any other temperature scale, thus the constant for the English scale of the Fahrenheit thermometer is 459.6. The addition of this constant to the temperature measured above freezing gives the "absolute temperature."

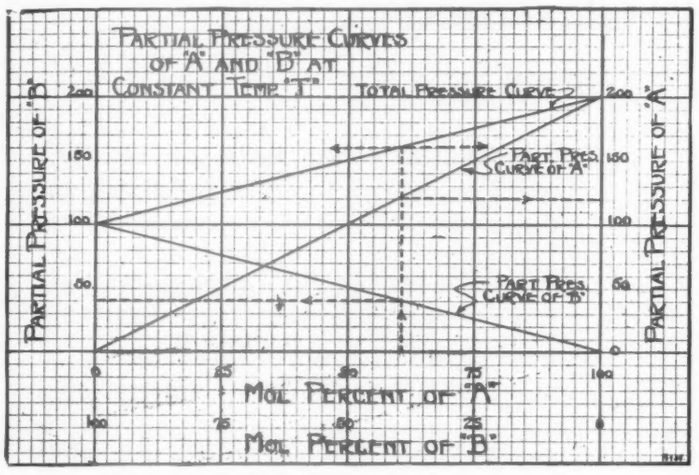
PARTIAL PRESSURE CURVES OF "A" AND "B" AT CONSTANT TEMP "T"
TOTAL PRESSURE CURVE
PART. PRES. CURVE OF "A"
PART. PRES. CURVE OF "B"
PARTIAL PRESSURE OF "B"
PARTIAL PRESSURE OF "A"
MOL PERCENT OF "A"
MOL PERCENT OF "B"

Figure 1—Liquid partial pressure curves.

Perfect Gas Equation: The laws of Boyle and Gay-Lussac may be mathematically combined to give the perfect gas equation of

$$PV = NRT, \text{ where}$$

P = The pressure exerted by a fixed weight of gas.
V = The volume occupied by the same.
N = The number of "mol weights" involved.
R = A constant depending on the units used in measuring P, V, T.
T = The absolute temperature.

If we solve the above equation for the value of 1 mol, we get

$$V = 1 \times R \times \frac{T}{P}$$

from which we see that the volume of 1 mol of every perfect gas at any given temperature and pressure is the same. This justifies our previous definition of a mol of vapor as one-half the ratio of the weight of a fixed volume of that vapor, under fixed conditions of temperature and pressure, to the weight of a similar volume of hydrogen (the molecular weight of ordinary hydrogen gas being 2).

If we substitute English units in the above equation, together with standard conditions of 14.7 pounds absolute pressure and 32 degrees Fahrenheit temperature, we find the volume of 1 mol equal to 359 cubic feet. We may, therefore, also define the English unit mol as that weight of gas required to fill 359 cubic feet of space at 14.7 pounds absolute pressure and 32 degrees Fahrenheit temperature.

Dalton's Law

Dalton's law states that if a mixture of several different gases is introduced under pressure into a container of fixed volume, then each gas will act as though it were in that container alone, and exert a pressure on the walls of the container exactly equivalent to the pressure it would exert if the other gases were not present. This pressure exerted by the individual gas is called its "partial pressure," and the total pressure exerted on the walls of the container will be the sum of the individual partial pressures of the individual gaseous components making up the mixture.

Combination of Dalton's law with the perfect gas equation:

By transposition, we can throw the perfect gas equation into the form of

$$N = P \times \frac{V}{RT}$$

Now if we have a gas at a constant temperature T in a container of a constant volume V, the expression $\frac{V}{RT}$ becomes a constant, and we see that N, the number of mols present, is directly proportional to P, the pressure exerted by the gas. But Dalton's law states that this pressure P is the same for any given mol quantity of gas at any given temperature within a container of any given size, irrespective of the presence of any other gas or gases, and, furthermore, that if it is a "partial pressure," it is the same as the total pressure would be if that gas were present alone in that particular container at that particular temperature. Now this combining of Dalton's law with the perfect gas equation leads us to a very important deduction, namely,

The mol concentration of a gas (i. e. the ratio of the mols of that particular gas to the total mols of gas present) is directly proportional to the ratio of the partial pressures exerted by that particular gas to the total pressure exerted by the gaseous mixture.

Raoult's Law

If a liquid is enclosed in a vessel and

*Before the meeting of the California Natural Gasoline Association, Los Angeles.

Operation of Simple Steam Still

By E. G. Ragatz
Union Oil Co. of California

In part one, we briefly summarized the fundamental laws involved in the phenomena of vapor enrichment, which led, in turn, to the construction of an equilibrium vapor-liquid concentration curve for a binary mixture. Using this curve, we designed a simple theoretical three-compartment still for the continuous production of a 67 per cent overhead and a 30 per cent bottoms concentration cut from an original 52 per cent concentration feed. (The concentration percentages referring to the respective mol concentrations of the light material component.)

Although this still produced bottoms of a 30 per cent concentration, this percentage of light material could have been further decreased by adding more still shells below No. 1. If now, in place of constructing such a series of individual still shells, we simply insert trays, one above another, in a single vertical shell, leading the vapors from each lower tray to the next above and correspondingly back trapping the liquid from the successive upper to lower trays, as indicated in Figure 4, we will have constructed a typical plate or tray column.

End Products

The quality of the end products (vapor overhead and liquid bottoms) from such a column in actual continuous operation always deviate from the concentrations indicated by the vapor-liquid equilibrium curves for a similar number of equilibrium phases, the bottoms from the actual column always being lighter than that indicated on the curves for a given overhead cut. This deviation is caused by the loss of heat to the atmosphere and the inability of the actual operating apparatus to obtain a theoretically perfect equilibrium between the vapors and liquids on the various distillation trays. In every case, however, for a given desired separation of bottom and overhead cuts, there will be a theoretical minimum number of trays required for effecting the same, and as the heat losses from the system are reduced and the equilibrium

(Continued on Page 123)

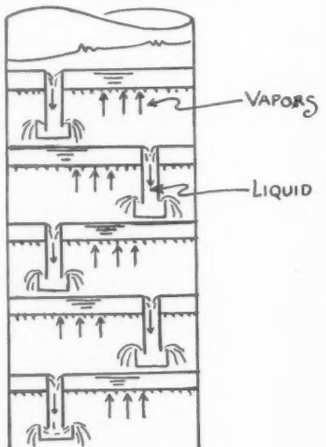

Figure 4—Typical or tray column.

heated, it will tend to form a vapor phase; this tendency resulting in the production of a so-called "vapor pressure." For any pure liquid, this vapor pressure is a constant for any given temperature. When another substance is dissolved in a pure liquid, however, the vapor pressure of the liquid is decreased, and Raoult's law states that this decrease in vapor pressure is directly proportional to the mol concentration of the dissolved substance in the original liquid. (For most substances, this law only holds good for concentration below 5 per cent, but remember we are for the moment dealing with theoretical substances which obey the fundamental laws in their entirety.)

This law of Raoult's can better be understood if we refer to the liquid partial pressure curves of Figure 1 representing various per cent mixtures of two theoretical materials which are mutually soluble in each other—in which case each

Furthermore, consider this system to have been maintained under these conditions long enough to have come to a thorough equilibrium. Then the total vapor pressure exerted by the liquid would, of necessity, equal the total pressure exerted by the vapors; and the partial vapor pressure exerted by each liquid component would just equal the partial pressure exerted by its particular vapor.

But, from the previous analysis, we see that the ratio of the partial vapor pressure of "A" to the partial vapor pressure of "B" is that of 120 : 40, therefore, the ratio of the partial pressure of the "A" component in the vapors to the similar partial pressure of the "B" component must also be that of 120 : 40, or 3 : 1. But the deduction from a combination of Dalton's law with the perfect gas equation states that this partial pressure ratio also expresses the mol concentration ratio of the vapor components.

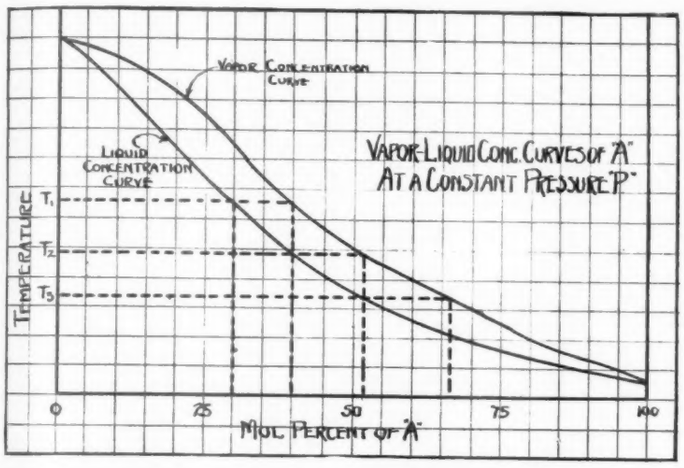

Figure 2—Vapor liquid equilibrium curve.

will depress the partial pressure of the other in proportion to its mol concentration in the other.

Figure 1

Figure 1 represents the various partial and total vapor pressures which would be exerted by various mol mixtures of "A" and "B" at some given constant temperature T.

At this temperature T, pure "A" would exert a vapor pressure of 200 units and pure "B" would exert a pressure of 100 units. Now if we mix "A" and "B" in any proportion, the partial vapor pressure of each liquid will be less than it would be if each were alone, and the total vapor pressure exerted by the mixture will be the sum of these two partial vapor pressures. The vertical dotted line represents such a mixture composed of 60 per cent "A" and 40 per cent "B." With this mixture, the partial vapor pressure of "A," from its curve, is 120 (though pure "A" alone would have exerted 200 units of pressure), the partial vapor pressure of "B" is 40 units (though pure "B" alone would have exerted 100 units), and the sum of the partial vapor pressures, or the total vapor pressure exerted by the mixture, is 160 units.

We are now in a position to understand why the vapor given off from a liquid mixture of heavy and light components is richer in the lighter components than is the liquid which remains behind.

Again referring to Figure 1, imagine this liquid mixture of 60 per cent "A" and 40 per cent "B" to be introduced into a closed container in which the vapor space above the liquid is relatively small. Furthermore, suppose that no other vapors were present in this space, and that the liquid mixture were heated to the temperature of T of Figure 1. Then a portion of the liquid content would vaporize, but the quantity given off would be so small as to leave the composition of the remaining liquid substantially the same, i. e., 60 per cent "A" and 40 per cent "B," and the total vapor pressure exerted by the liquid mixture would still remain 120 units.

Therefore, from a liquid having a mol concentration ratio of 60 : 40, or 1.5 : 1, we have evolved a vapor having a mol concentration of 3 : 1. In other words, in this particular theoretical case, we have doubled the concentration of the light component in the vapor as compared with the remaining liquid.

Liquid Equilibrium

In most practical problems of binary vapor-liquid equilibriums, the relationships are much more complicated than for the above illustration, consequently, in these cases, we find it impossible to directly compute the relative vapor-liquid concentrations for the various temperature conditions. However, this tendency towards vapor enrichment always exists, and may be studied in the physical laboratory with the production of a vapor-liquid equilibrium curve such as indicated in Figure 2; this curve representing the changes in the relative vapor liquid concentrations of "A" in a binary mixture of "A" and "B" for various changes of temperature at a constant pressure P (as contrasted with Figure 1, which represents changes in pressure at constant temperature).

Using this curve, we see that if we heat a liquid containing 30 per cent of "A" to a temperature T_1, we will obtain a vapor containing 40 per cent of "A." Similarly, a liquid containing 40 per cent of "A" heated to T_2 will yield a vapor of 52 per cent "A," and a liquid of 52 per cent "A" heated to T_3 will yield a vapor containing 67 per cent of "A." We will now see how we can apply this information to the design of a simple theoretical continuous still.

As illustrated in Figure 3, we will first construct three simple still shells, back-trapping the bottoms from one still to the next below, and leading the vapor from the lower still into the liquid in the next above. The bottoms lines will be equipped with valves which will be kept closed for the present.

Method of Operation

Now, with the bottoms valves closed, we will fill still No. 1 with liquid of 30 per cent "A" concentration, still No. 2 with a 40 per cent concentration and still No. 3 with a 52 per cent concentration, heating the liquids, respectively, to temperature T_1, T_2 and T_3. We will then apply additional heat to the coils of still No. 1. This additional heat will cause some of the liquid in still No. 1 to vaporize at a temperature T_1, but since this vapor is of the same composition as the liquid in still No. 2, it can be freely introduced into the body of the liquid in still No. 2. However, it is at a higher temperature than the liquid of No. 2, hence its introduction into this liquid will, in turn, cause some of the liquid in No. 2 to boil off and pass over into still No. 3. But the vapor from No. 2 is of the same composition as the liquid in No. 3, consequently, it may similarly be freely introduced into the body of the liquid in No. 3, with a similar evolution of still lighter vapors from the liquid in No. 3.

If this operation were to be continued for any appreciable period of time, the liquids in the respective stills would become leaner in the light component "A." These liquids could then be enriched by cracking the bottoms valves and blending back some of the richer bottoms from the still above, while the top (No. 3) still would be enriched by adding additional feed, and the bottom (No. 1) still drained of some of its heavy material. This, of course, leads to a continuous operation in which feed liquid of 52 per cent concentration at a temperature T_2 is continuously introduced into still No. 3, OH vapors of approximately 67 per cent concentration continuously introduced into still No. 3, and bottoms of approximately 30 per cent concentration continuously removed from still No. 1. It should be noted, in this respect, that when the still comes into continuous operation, the equilibrium temperatures and concentrations will only approximate those indicated on Figure 3, due to the fact that the temperatures in stills No. 2 and No. 3 can no longer be held exactly T_2 and T_3.

Thus, from the vapor enrichment data of Figure 2, we have designed a simple three-compartment still for the continuous production of a 67 per cent overhead and a 30 per cent bottoms cut from a 52 per cent feed material; this operation being effected by the introduction of high temperature heat at the heating coil of still No. 1, together with the removal of low temperature heat from the O. H. condensing coil of still No. 3.

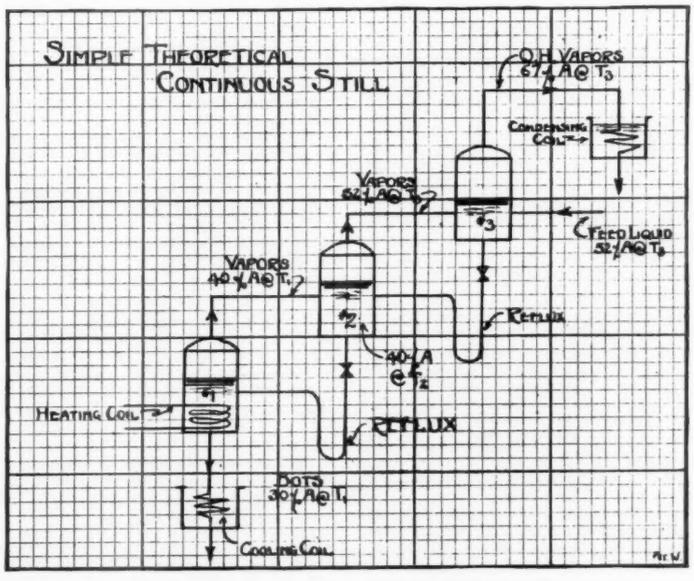

Figure 3—Simple theoretical continuous still.

OPERATION OF SIMPLE STEAM STILL PLANT

(Continued from Page 122)

on the individual trays improved, the actual number of trays required will approach this theoretical minimum limit.

If we now place such a column on top of a bottoms receiving shell, feed the incoming material onto the top tray of the column, and heat the bottoms in the shell, as indicated in Figure 5, we will have a typical simple, or nonrefluxing, still. With this still arrangement, it is possible to maintain a temperature gradient between the top and bottom plates of the column; this temperature gradient being created by the ascending current of hotter vapors leaving the liquid in the bottoms receiving shell. This temperature gradient, in turn, will produce an equilibrium phase at the base of the column in which the concentration of the light component in the vapors is considerably less than at the feed plate, resulting in the production of a liquid bottoms much heavier than could be obtained by the immediate removal of the liquid in contact with the rich vapors at the top of the column.

We are now ready to lay aside our thoughts of mol concentrations and theoretical binary mixtures and consider just what takes place in such an actual, simple still when the same is used for the distillation of a petroleum feed material.

Four Factors

As an introduction to this detailed consideration, we will first specifically call attention to the four primary factors which govern the operation of such a simple distillation unit.

1. The basic function of such a column is that of progressively removing (stripping or exhausting) the lighter fractions from the liquid feed as it moves down through the column; with a resultant production of an equilibrium state at the bottom of the column in which the vapors in contact with the liquid therein are so heavy that no undesirable light fractions are contained in the liquid bottoms withdrawn from the still.

2. Such a column primarily presents an independent control on the bottoms only, due to the fact that, though we may progressively remove the light fractions from the down-flowing liquid to any extent desired, and hence directly control the concentration of the equilibrium vapors in contact with the liquid bottoms, we always have all of the heaviest liquid fractions in direct contact, hence equilibrium, with the vapors leaving the top of the column.

3. The desirability of maintaining small heat losses and maximum equilibrium conditions through such a column are as essential for the economical distillation of complex petroleum feed materials as for simple binary mixtures.

4. In most petroleum distillation problems, the boiling range of the fractions composing the feed material is so wide that any substantial vaporization of the feed material will result in the total elimination of the lightest fractions from the remaining liquid — with a resultant

(Continued on Page 125)

Quiet Spot Market in Chicago Area

Contract Customers Taking Full Amount of Gasoline. Sales at 6¾ Cents With Business Any Higher Limited

By John B. Waldo

CHICAGO, June 6. — There was a very quiet spot market on Monday in nearly every product.

Refiners continue to report that their contract customers are taking the full amount of their gasoline contracts and state that these deliveries are sufficient for the requirements of the dealers under the present trade conditions. The sales made in the spot market were few and nearly all placed at 6¾ cents, business at any higher price being very limited. Movement of the higher gravities was very small and prices quoted show a very narrow range above the price of the U. S. Motor gasoline. There was no real activity in kerosene and the prevailing price remains 4⅜ cents. Gas oil is steady at 2¾ cents, with one sale of 50 cars over a period reported at that price. Fuel oil dragged but prices were rather firm for refinery fuel oil. No large demand was noticed. The contract for the Warrior barge line was placed at Memphis May 27 for 100 cars of Smackover fuel oil at $1.09 f.o.b. Smackover. Effective June 5, the gasoline price at Minneapolis was reduced to 14 and 16 cents, including tax.

Marginal Contracts

During all of last week, the market, so far as the Group 3 refiners are to be reckoned, was firmly held at 7 cents for the regular U. S. Motor gasoline. There was talk of further advances being made in the near future but so far all the talk of higher prices has not resulted in any noticeable increase in the movement of gasoline. The bulk of the supplies for this territory are still coming forward on marginal contracts. Dealers are with very few exceptions taking the full amount of their contracts and that is all. The monthly report of two large refiners with more than the usual number of contracts showed that the quantity of gasoline remaining unshipped at the close of the month was very small and that probably the quantity shipped in excess of the contract requirements would be nearly equal to that remaining unshipped. In most cases these contracts are based on the minimum requirements of the dealers or only a little more and under ordinary conditions these dealers would be buying some gasoline in the spot market. As it is they are taking their contract quantities and little, if any, more.

Why should they buy if they do not need the gasoline, is what the dealers say. There are a number of special conditions this season that make the dealer reluctant to overbuy even if he could do so without trouble. One is the large amount of credits being carried by the country dealers. Salesmen report that the dealers with farmer trade are being importuned for more credit than they can possibly grant. One dealer in a good central Illinois town was heard to refuse three such requests for credit in a short time last week. He said he could not do as requested, that he was already carrying $20,000 in accounts on his books and that was as far as it was possible for him to go. He suggested that the customer arrange for a loan at the bank and pay cash but he did not expect that his advice would be taken. There are some large and financially strong oil distributors who can afford to add to their present burden of accounts unpaid but the average oil jobber cannot. Many dealers have said they could double their sales if they would give credit.

Q. D. A. a Factor

Another reason why the average dealer is very careful not to get overstocked is the price situation. The Q. D. A. is in many instances adding greatly to the cost of doing business or greatly reducing the income. This cost to the dealer varies greatly with the kind of business and with the management. The dealer in a small community has few accounts that entitle the buyer to a quantity discount. In some instances the total discount in any month does not amount to one-fourth of a cent a gallon on all the gasoline sold. With a small concern it might be of no importance, a minor expense. But larger concerns in cities and towns where there are a number of large buyers find that the discounts allowed range in some instances as high as 1½ cents a gallon in the entire gasoline sales and a discount of 1 cent a gallon on the total sales is a very moderate estimate for a really large operator. When the margin is a narrow one, dealers might be less anxious to sell to the larger buyers who expect and insist on their full discount.

Then there are many points where the cutting of prices has reduced the margin between the cost and selling price of gasoline to almost nothing or even less than nothing. A salesman called on a jobber for business who was located at a southern Minnesota point. The jobber said that his tank wagon was 9 cents and that he could not buy and pay the freight for that price. He was buying in truck lots from a neighboring Standard Oil station and must continue to do so until his tank wagon price was restored to something more nearly normal. The result of such conditions is that numerous distributors in all parts of the territory are not pushing their sales but are trying to reduce their expenses of doing business and one way of doing this is to reduce their stocks of gasoline and other products carried by them.

Refiner-Distributors

Of course, there will be the usual use of the motor cars, weather permitting, and some source of supply will receive the orders but conditions rather favor in many ways the refiner-distributor who has certain advantages which the independent distributor has not. For one reason or another at least two of the large refiner-distributors have abandoned their plans for extensive expansion of the distributing system, at least for present, and probably for the year. In fact, there is a very general curtailment of expansion in the industry aside from the restricting of the crude supply. There has been a check to the too rapid expansion which will in the long run be thoroughly healthy. All of which has its bearing on the immediate market and the course of prices in the near future.

The condition in the farming districts is very slow to right itself. There were many oil men of this city who made more or less lengthy trips over Memorial Day in their autos and one and all expressed surprise at the backward condition of farm lands in the surrounding states. All through the great corn belt there are many fields still too wet to be worked at all. The Memorial Day consumption of gasoline was somewhat of a disappointment. Locally the business was very large and this was partly due to the fact that a great number of motorists who had planned for short tours over the three days holiday were prevented from starting by the threatening weather of the early mornings. Each day was really fine but every morning threatened rain so that they simply stayed at home. The country business, though good in spots, was disappointing as a whole and leaves many jobbers with supplies of gasoline.

Demand Moderate

Following Memorial Day there was a determined effort to put the market at a straight 7 cents. Most of the refiners advanced their price to this figure and many are still holding it. They believe that conditions justify at least a 7-cent rate for U. S. Motor gasoline and that as soon as the gasoline due on May contracts with refiners, much of which costs the marketer 6¼ cents, has been disposed of, as it must be very shortly, that the trade will pay and that there will be no difficulty in getting 7 cents for the Motor grade. However, late in the week there were some who put their price back to 6¾ cents and the bulk of the business was done at that price. Some few sales were made each day by those holding for 7 cents to regular customers who for some reason did not care to shop around but there was no difficulty in buying up to the close of the week at 6¾ cents. The demand as a whole was moderate. One of the large refining sales offices called up dealers over five states asking for orders and did not get a single order and all those who tried for business got meager results. There was a very light demand for the higher gravities and the prices were only nominally higher in sympathy with the higher price asked for the Motor grade.

Natural gasoline was quiet and a little lower in price. The shaffer Oil & Refining Co. announced the change in its specifications of its regular station gasoline to 60-62 400 endpoint, with no change in price to the motorist. The demand for the antiknock gasolines seems to be as active as ever but occasionally some dealer is changing back to the U. S. Motor grade, saying that customers complained they did not get as good mileage with the special gasoline as they were accustomed to from the usual grade.

The kerosene movement all last week was moderate. The jobbers place orders for a single car but the larger business seems to have gone by for the season. In ordinary times the next active demand should come when the small grains are harvested along in July but all farm crops are so behind their usual time that this demand will probably come late. The market was fairly steady at 4⅜ to 4½ cents for the 41-43 gravity.

Oil Burner Prospects

There seems to be a general feeling in all branches of the Chicago industry that the demand for oil fuels for the domestic oil burners will be larger this coming season than it was last year and show a greater increase over the winter of 1926 than that season did over 1925. The oil burner men are planning for large sales efforts and they are helped by the outlook for plentiful supplies of oils and possibly lower prices to the consumer. Then it is said that two such mild winters as last seldom, if ever, follow each other. There is a very considerable number of inquiries from distributors for contracts over the season but the trouble is to secure a really satisfactory price basis. It is also admitted that there will be a greater proportion of the gas-oil type of fuels used than in previous seasons. The consumption of distillate will it is believed, show a smaller increase than of gas oil. The burner that had the largest sale last season advertises that it requires only a 28-30 gravity fuel oil but in most cases the dealers supply gas oil. The sales of this burner were larger than the combined sales of the next two burners, both of which require a low flash distillate. The demand for distillates is very quiet, occasional car lot sales being the usual report from refin-

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EASTERN GASOLINE MARKETS MIXED; DECLINES PREDOMINATED IN WEEK

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 4.—The eastern gasoline markets have been mixed during the past week, with advances in some districts and declines in others. The declines have predominated, however. The Atlantic Refining Co. advanced the tank wagon price 1 cent in Pennsylvania and Delaware; the Standard Oil Co. of New York and all other markets have cut the tank wagon price to 17 cents in Massachusetts and New Hampshire. This last was accomplished gradually, no sweeping reduction having been made. The Standard Oil Co. of New Jersey cut the price 3 cents in Parkersburg, W. Va., and 2 cents at Washington, D. C.

This scattered but persistent price cutting is taken as evidence of inherent weakness in the retailing situation due to the overabundance of service stations. The Standard Oil Co. of New York, for instance, charges the reduction in prices to cuts by competitors.

In other parts of the East scattered reductions in tank wagon prices are being made, so that it is impossible to say that any state has a certain tank wagon price throughout. The larger marketers put price policy in certain communities up to local agencies, and therefore they themselves cannot say from day to day exactly what prices are existing.

The belief prevails in some quarters that there will be a "show down" on the part of the larger gasoline retailing units, and that instead of making scattered reductions in prices a drastic cut will be made in the tank wagon market which, it is believed, will eliminate to a large degree the irregularity in prices now existing throughout the Atlantic Seaboard.

So far as the tank wagon or retail situation is concerned, students of the situation see no immediate chance of a turn for the better. The outstanding factor, they say, is the excessive number of service stations, and this can only be corrected gradually.

The Atlantic Coast tank car gasoline market shows some improvement, most factors quoting 9 cents a gallon, against 8¾ a week ago. This improvement is slight, of course, and is being resisted by many buyers who are waiting to see if the increase can be maintained.

The consumption of gasoline is extremely heavy, with better weather conditions. However, this does not seem to be the deciding factor in the situation at present. For every increase in demand there seems to be a still greater gain in marketing facilities.

Kerosene Uncertain

Although tank wagon prices are holding fairly well, the kerosene market presents a weak tone, with heavy offerings of imported material at some Atlantic Seaboard points. Domestic demand is good, but exports continue below normal, and stocks are still considered excessive.

The furnace oil market is unchanged, prices ranging from 9 to 11½ cents, depending on grade and quantity purchased.

Gas and Fuel Oil

The Standard Oil Co. of New Jersey on May 26 reduced the price of bunker fuel oil 10 cents a barrel at Atlantic

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OPERATION OF SIMPLE STEAM STILL PLANT

(Continued from Page 123)

superheating of these light fractions in the vapor state.

Use of Steam

In many distillation processes, the stripping of the downflowing liquid within the column is partially, or wholly, affected by the introduction of open steam into the bottom of the still. Such an apparatus constitutes the simple steam still of our discussion.

Offhand, in light of our previous discussion, one might be inclined to question the differential stripping effect of steam used in such a manner, and justly argue that this steam, being an inert gas with respect to the oil fractions in the system, would simply reduce the partial pressure required for effecting the vaporization of the oil fractions. This reasoning, however, fails to take into consideration the actual mechanical arrangement of the column.

Right here we might explain in more detail the exact nature of the so-called "partial pressure reduction" portion of the steam distillation cycle. In general, a distillation effect in a still is carried out under some definite pressure; this pressure representing the atmospheric pressure on the system plus the friction drop encountered by the vapors in flowing through the apparatus. Now suppose, in a particular case, the atmospheric pressure was 14.7 pounds absolute and the friction loss due to vapor flow 3.3 pounds. Then the total absolute pressure carried on the vapors in the still would be 18 pounds, and if no steam were present, the liquid oil fractions would have to be heated to a temperature sufficient to develop 18 pounds of absolute vapor pressure before any vaporization could take place. Suppose, however, that the friction drop due to vapor flow remained 3.3 pounds after the introduction of steam into the system, but that steam was introduced under such conditions that it exerted a 10-pound partial vapor pressure. Since the total pressure on the system still remained 18 pounds, the partial pressure required on the part of the oil fractions for initial vaporization would then be the difference between the total 18-pound pressure carried on the system and the 10-pound partial pressure of the steam, or 8 pounds. Obviously, the temperature to which the system must be raised to develop an 8-pound partial pressure on the part of the oil fraction is less than that required for developing an 18-pound pressure. Thus, the addition of open steam to the system does not actually reduce the partial pressure of the oil for any given temperature, as such, but it does change the physical state of the system to such an extent that the oil vapors can form under a considerably lower partial vapor pressure than would be the case if the steam were not present.

Purpose of Steam

Referring again to Figure 5, we see that steam could be introduced into this apparatus through a spider located in the body of liquid held in the bottoms shell (the usual method of introduction). When the steam is released into the liquid, however, it forms bubbles of vapor which rapidly rise through the liquid body and escape from its surface, thence passing on up through the still column. Now it is the contact of the surface of these bubbles of steam with the liquid oil which reduces the required vaporization partial pressure of that oil, and furthermore, an appreciable period of time is required for effecting this vaporization after the required partial pressure has been reduced. As it first escapes into the liquid body, the fresh bubble of steam can exert its full partial pressure reducing effect on the liquid, and hence pick up a portion of the heaviest oil fractions which we desire to have removed.

However, the length of time during which each individual bubble is in contact with the main body of liquid within the bottoms receiving shell is so short that, as it breaks free from the liquid surface on its way to the column, it may contain practically pure steam at its center, with a gradiated concentration of oil vapors between the center and the oil-saturated surface. As the bubble moves on up through the column, however, it becomes so deformed as to bring fresh steam from its center to its surface, thus diluting the saturated surface steam. This diluted surface steam can then pick up additional oil fractions, particularly since it finds itself in contact with lighter, more easily vaporized fractions than encountered in the bottoms liquid.

Vapor Saturation

Thus we see that an effective stripping or exhausting effect when utilizing steam alone depends on a lack of immediate thorough equilibrium at the base of the column, as contrasted with the absolute thorough equilibrium d e s i r e d under straight temperature fractionating conditions. However, if we are to use the minimum amount of steam in such a still, sufficient trays must be provided to produce a completely oil-saturated vapor stream leaving the top of the column. This leads us to another definition, namely, that of "vapor saturation."

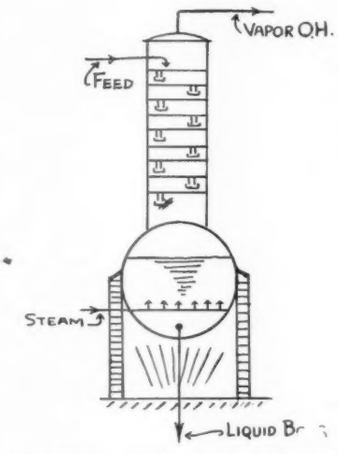


Figure 5—Simple or nonrefluxing still.

In practically all steam distillation processes, the partial pressure of the steam in the system is of such an order that the steam is superheated at the flowing vapor temperature. However, the quantity of steam present may be of such a magnitude that all of the oil vapors present are also superheated. By this latter expression "superheated," we mean to imply that if thorough equilibrium is obtained between the oil vapors and steam (as would occur if the mixture were blown down through a series of insulated orifices) then a differential reduction of temperature at the prevailing vapor pressure would not produce a differential condensation of oil fractions. Conversely, an oil-saturated vapor stream would produce a differential condensation of oil fractions with a differential reduction in temperature.

Now, whenever the vapor stream leaving the top of a simple (non-refluxing) still column is in a totally superheated state, then an excess amount of steam is being used in that column, and the column itself is inadequate for the work demanded of it.

We are now ready to critically analyze the operation of a simple steam still to determine just what sort of control should be carried on the same. As an aid to such an analysis, we will submit the results obtained from the actual operation of such a unit under various test controls.

Analyzing

The layout of this test unit was similar to that of Figure 5, except that a tile packing was used in the column in place of fractionating trays. Obviously such a still arrangement was for the purpose of producing an exhausted bottoms, that is, a bottoms thoroughly stripped of the lighter components of the original feed material. Under the distillation controls carried on this unit, we in every case cut approximately an 85 per cent vapor overhead from a relatively light feed material while producing a bottoms having a closed cup flash better than 150 degrees Fahrenheit. In effecting these operations we also desired, when possible, to hold the maximum temperature reached in the system below 315 degrees Fahrenheit. The results of this series of tests is indicated in a consolidated form in Table 1.

Part 1 of this table shows the effect of varying the feed temperature with the fires under the still cut out. Under these conditions, all stripping of the bottoms had to be obtained by the use of agitating steam alone. It will be noted that with this control it was necessary to exceed the 315-degree Fahrenheit temperature in order to obtain anything like a reasonable steam rate. Also, that a difference of only 30 degrees Fahrenheit in the feed temperature (from 315 degrees to 345 degrees) cut the steam consumption in less than half. This large steam saving for so small an increase in sensible temperature of the feed is accounted for by the fact that a large vaporization of the feed material occurred between the 315 and 345-degree temperatures. This set of data also shows what occurs in such a steam still unit when the vapor lines are inadequate. As the quantity of steam used at the still increased, the back pressure resulting from the friction flow through the vapor lines and condensor coils also increased, thus minimizing the effectiveness of the added steam. If the vapor pressure under the 315-degree Fahrenheit feed temperature had remained 10 pounds, then the observed steam rate of 370 pounds would have been materially reduced.

Importance of Fire

Part 2 of the table shows the effect of cutting in the fire under the still while holding the feed temperature substantially constant. It will be noted that the steam consumption was here again cut in less than half, although the vapor pressure in this case remained fairly high (18 pounds). The big saving in this case, of course, is the direct result of raising the bottoms to a temperature of 312 degrees Fahrenheit in place of the 262 degrees Fahrenheit carried without the fire; the higher temperature making it much easier for the agitating steam to pick up the heavier fractions which we desired to eliminate from the bottoms.

Part 3 of the table shows the effect of varying the feed temperature while maintaining the fires under the still. Here again the hotter feed gave the lower steam consumption, though the observed saving is not near as marked as for Part 1 when the fires were cut out. This smaller saving is due to the fact that the amount of feed material vaporized between 205 degrees and 300 degrees Fahrenheit is less than between 315 and 345 degrees Fahrenheit, and that the fires under the still can be so increased as to make up, in a large measure, for the lack of initial heating of the feed.

In addition, the data of Part 3 clearly indicate an example of the total superheating effect which we have previously discussed. Under each control of Part 3 the temperature of the vapors leaving the column was the same (292 degrees Fahrenheit) while the vapor pressures were practically the same (18¼ pounds vs. 19 pounds).

Yet the steam present per barrel of oil vapors was 130 pounds in one case as against 186 pounds in the other. (The "barrels of vapors" being the amount of vapors present equivalent to barrels of condensed material at 60 degrees Fahrenheit.) Obviously, if the 308-degree Fahrenheit feed with its 130-pound steam rate yielded a saturated vapor overhead (and we have no proof that even these vapors were saturated), then the oil vapors in the case of the 205-degree feed must of necessity have been wholly superheated, since there was present in the latter case at least 56 pounds of excess steam per barrel equivalent of oil vapors. This direct evidence of the presence of excess steam in the vapor stream indicates that the column was inadequate for effecting the distillation work demanded of it under this particular control.

Conclusions

From our previous analysis of the operation of a theoretical simple still, coupled with observations obtained under actual operating tests such as outlined in Table 1, we may, in closing, state that the economical operation of such a simple steam still requires the heating of both the feed and the bottoms. The exact distribution of this heat for the most efficient operation, however, varies for each particular distillation effect desired, and, in as far as we know, can only be determined by an actual test operation of the particular apparatus under consideration.

TABLE 1
Comparison of Steam Still Operating Characteristics—Cutting 85 per Cent Vapor Overhead

1—Effect of variation of feed temperature. No fire under still.

	Case 1	Case 2
Temperature of feed	315°F.	345°F.
Temperature of bottoms	262°F.	340°F.
Temperature of vapor O.H.	270°F.	295°F.
Pressure of vapor O.H. (lbs.)	25	10½
Lbs. steam, bbl. O.H. vapors	370	150

2—Effect of fire under still—feed temperature constant.

	No Fire	Fire
Temperature of feed	315°F.	308°F.
Temperature of bottoms	262°F.	312°F.
Temperature of vapor O.H.	270°F.	292°F.
Pressure of vapor O.H. (lbs.)	25	18
Lbs. steam, bbl. O.H. vapor	370	130

3—Effect of variation of feed temperature—fire under still.

	Case 1	Case 2
Temperature of feed	308°F.	205°F.
Temperature of bottoms	312°F.	300°F.
Temperature of vapor O.H.	292°F.	292°F.
Pressure of vapor O.H. (lbs.)	18¼	19
Lbs. steam, bbl. O.H. vapors	130	186

NORTH TEXAS MARKETS EXPECT BETTER PPICES

WICHITA FALLS, Tex., June 6.—With the exception of natural gasolines, which weakened during the past week, there was little change in the North Texas refined market. Buying in 64-66 390 gasoline for export and the rumor of buyers in the market for a big order of 64-66 375 gasoline brightened the refined gasoline market.

During the week 500,000 gallons of 64-66 390 gasoline was sold to an exporter at a price reported to be 6¾ cents. Some of the gasoline was bought in Olney, some in Electra and the remainder in Wichita Falls.

To most refiners the gasoline situation looks brighter and better prices are expected. In Fort Worth one refiner is quoting U. S. Motor grade gasoline at 6¾ cents. However, little is going at that price, but considerable gasoline is being moved from those plants at 6½ cents.

In Wichita Falls the market showed a slight but steady gain throughout the week and the after holiday business was brisk. Monday, though, the market started off a little slow, but prices were firm. In other areas of North Texas the after holiday buying was not so brisk and the movement of gasoline was a little bit better than fair. However, prices in those areas were firm.

Adverse motoring weather in the North Texas territory during the latter part of the week reflected in a slump in the spot trade of the territory. While buying throughout the territory is fairly steady, it is believed jobbers are fairly well stocked up. Considerable gasoline is being moved of previous purchases. Most of that gasoline was bought at around 6 cents.

Natural gasolines were further weakened during the week and at the opening of the current week there was litt e activity in that market. Some manufacturers of natural gasoline are not greatly concerned over the slump because they are sold up. Others have a surplus that is increasing daily.

Although a fairly good demand for kerosene is still in evidence, kerosene slowed up a little during the week. So far there is not much activity in Wichita Falls for kerosene over June, while during May most refiners were sold up. In Fort Worth the kerosene market was in much better shape with a good demand and little available.

Fuel oil was a little weaker and fell off 2½ cents in comparison with last week's prices. Towards the latter part of the week some fuel oil in Wichita Falls sold for 85 cents. However, refiners expect fuel oil to strengthen shortly with the appearance of railroad fuel buyers in the market. The fuel oil market in Fort Worth did not change. Gas oil moved fairly steady and remained unchanged and the distillate market was steady.

REFINING AND MARKETING

GOOD WILL SERVICE TRUCK MAKES TOUR

DALLAS, Tex., June 4.—Simms Oil Co. of this city has inaugurated a unique good will plan to better instill among its service station employes a service spirit. The company has a good will service truck touring over Texas and calling at all stations where Simms products are sold. The car is in charge of the company service experts. The car is a specially designed Dodge business car finished in the Simms company trade colors. Its uniqueness attracts attention where ever it goes and serves as an advertising medium as well as its original purpose.

The car and tour is in charge of George E. Webb, in charge of the Simms company retail work. He is assisted by W. C. Whitten. They explain to every Simms company service station employe and the attendants at stations handling Simms company products, the company's service pledge.

In order that a uniform service over the country be maintained, the following general principles are being followed.

1—Meet my customer with a smile.
2—Gladly fill the radiators of every car.
3—Properly inflate tires.
4—Carefully and willingly wipe windshields.
5—Always give full measure.
6—Keep my station spic and span.
7—Keep my uniform neat and clean.
8—Never substitute with inferior products.
9—Answer questions cheerfully.
10—Always be courteous.

The idea to have each Simms company station employe and attendants at curb stations handling Simms company products, to give the same service, is carried further in the matter of uniforms to better advertise the products and company service. Each employe is issued white uniforms and caps and blue ties. A red triangle is embroidered on the uniforms.

TEXARILLO REFINING TO BUILD AT AMARILLO

AMARILLO, Tex., June 6.—One of the most interesting announcements of the week to Panhandle operators was the announcement of the Texarillo Refining Co.'s intention of building a 5,000-bbl. capacity refinery at Amarillo. Dorset Carter, president of the Pantex Pipe Line Co., and Col. Ernest Thompson of Amarillo, are behind the movement to build the plant. The plant is estimated to cost upward of $200,000 and it is being financed by Amarillo capital.

NO GASOLINE TAX INCREASE

MADISON, Wis., June 4.—The Caldwell bill increasing the tax on gasoline from 2 to 4 cents a gallon finally failed of passage in the Senate. The effective opposition was based on the plea that the bill would reduce the number of summer tourists in the State. This was regarded as a blow at an important and rapidly growing source of revenue in the State. The bill placing a license on all autos was finally passed and went to the governor for approval.

TO SELL IOWA PARK PLANT

On June 20 the 2,500-bbl. topping plant of the Interstate Gasoline Co. will be offered at public sale in Wichita Falls, Tex. The refinery is located at Iowa Park, Tex., on the Fort Worth & Denver City Railroad. The refinery is connected to the pipe line systems of The Texas Company and the Wichita Pipeline Co. It has been shut down for the past three years.

SUGGEST NEW RATE GROUP FOR OKLAHOMA AND KANSAS REFINERS

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., June 4.—Three days were devoted during the latter part of the present week to the taking of additional testimony and hearing argument before the Interstate Commerce Commission in the Mid-Continent rate case, reopened for this purpose.

The decision of the commission last year in fixing a differential of 2 cents per 100 pounds on refined oils for Kansas and Kansas City, Mo., refiners over Oklahoma (Group 3) to points in Western Trunk line territory was to go into effect June 16 and at the close of the hearing suggestions were made that this date be postponed because it did not seem likely that the commission would be able to render its decision at so early a date. However, the commission did not indicate its intention on that point.

There was a very large attendance from interests located at St. Louis, the southeastern and central Kansas group, and in the Northeastern Oklahoma group. It was quite generally conceded that but little testimony throwing new light upon this controversy was submitted. However, the advocates of placing the southeast and central Kansas groups and the northwestern Oklahoma group upon the same basis of rates regarded as of special importance testimony submitted showing the movement of oil during June, July and August, 1926 through the trans-Mississipppi River gateway which includes all of the rates in dispute. This testimony was to the effect that in those three months 20,951 cars moved from Oklahoma and 3,503 cars from Kansas to St. Louis, Illinois and Wisconsin. This included everything except movements on the Missouri Pacific which was not included in the information desired. Assuming that all moved by way of St. Louis, the average car from Oklahoma moved 467 miles and the average car from Kansas moved 455 biles, this difference in the length of route of only 12 miles it was contended on the part of the Oklahoma advocates was too small to warrant a differential in favor of Kansas.

It was contended that according to the figures given by railroads that actually furnish the cars moving from Oklahoma and Kansas through St. Louis and Chicago gateways the weighted average haul was shorter from northwestern Oklahoma, including the Enid group, than from south central Kansas.

Walker's Testimony

P. A. Walker of the Oklahoma State Commission said that the question had been asked why the interests he represented had taken no active part in this discussion until a decision had been rendered. He said it was only after the decision of this case had been made and its results had been pointed out that the commission had entered seriously into it and this rehearing was applied for. He pointed out that 35 per cent of the manufacturers of Oklahoma consists of

(Continued on Page 135)

CHICAGO P. O. BIDS

CHICAGO, June 4.—Bids have been opened for supplying the Chicago Post Office with gasoline for its delivery and collection service for the quarter beginning July 1. These bids were not tabulated for publication, but those on the basis of tank car prices ranged from one-eighth cent below the tank car price to one-fourth cent above. The bidder making the price of one-eighth cent below the tank car price asked three-fourths cent handling charge, while those bidding one-fourth cent above the tank car market asked only one-half cent for handling, so that the difference in cost to the department was but one-eighth cent. Bids were also received based on the local tank wagon market. These ranged from 3 cents below the tank wagon price to 5½ cents below, the majority being 4½ cents below the tank wagon price. The Seneca Petroleum Co. was the lowest bidder on the basis of the tank car market and the Sun Oil Co. on the basis of the tank wagon market. The Jewett & Sowers Oil Co. is at present filling the department's gasoline needs.

NAVY FUEL CONTRACTS

The United States Navy has awarded fuel oil contracts for 6,323,670 bbls., to be delivered over the year to points along the Pacific Coast, Hawaii and the Philippine Islands. Deliveries will start July 1. The companies sharing the bulk of the awards include the Pan American Petroleum Co. of California, General Petroleum Corp., Standard Oil Co. of California and the Associated Oil Co. The prices paid this year are the lowest for some time.

NOW BAYARD PETROLEUM CO.

CHICAGO, June 4.—The name of the Ennis-Bayard Petroleum Co. has been changed to the Bayard Petroleum Co. Harry Bayard, who has been the sole manager of the business since the retirement of Mr. Ennis from the organization some years ago, has organized the new company to take over and continue the business and remains at its head.

MARLAND SALES CONFERENCE

CHICAGO, June 4.—The Marland Refining Co. held a conference of its sales force at the office in this city last Tuesday. S. C. Collins, vice president, and F. D. Applegate, manager of tank car sales, division managers and salesmen were present to learn the details of the advertising campaign the Marland company is putting on.

CHAMBERLIN USED PENNZOIL LUB OIL AND AMERICAN 'GAS'

To the Pennzoil Co. of Oil City and the American Oil Co. of Baltimore go the honors for furnishing the motor lubricant and fuel for the latest transatlantic flight of Clarence D. Chamberlin and Charles A. Levine in a Bellanca monoplane.

The 18 gallons of lubricating oil taken on the trip which established a new long distance record of almost 4,000 miles was refined at the Rouseville, Pa., refinery of the Pennzoil Co. The 451 gallons of gasoline was furnished by the American Oil Co., a large jobbing concern operating in the eastern states. The gasoline came from the refinery of the Pan American Petroleum & Transport Co., which owns a half interest in the American company.

The monoplane used in this trip was somewhat similar to that of Captain Lindbergh's in his New York-Paris flight. Both planes have Wright engines.

PRODUCTION OF ASPHALT IN U. S. REFINERIES

The production of asphalt in the American refineries in 1926 increased 9 per cent and imports increased 17 per cent, according to the report of the Bureau of Mines. In the statement of G. R. Hopkins, of the Bureau of Mines, he says:

"Sales of asphalt and asphaltic materials manufactured from petroleum at refineries in the United States during 1926 amounted to 3,458,470 short tons. Of the total sales in 1926, 1,245,160 tons, or 36 per cent, was reported as having been produced from domestic crude petroleum and 2,213,310 tons, or 64 per cent, from foreign crude petroleum.

"The increase in the proportion of sales of asphalt from foreign petroleum in 1926 over 1925 indicates a tendency for the asphalt manufacturers to place more and more dependence on Mexican and Venezuelan crudes. The geographical distribution of petroleum asphalt production was unchanged in 1926, with the major portion of the sales on the Atlantic Seaboard, the Gulf Coast and California following.

"Imports of native asphalt and bituminous rock into the United States during 1926 amounted to 142,632 short tons, an increase over 1925 of 20,470 tons. There was received from Trinidad and Tabago 76,562 tons, or 54 per cent of the total, and from Venezuela 46,292 tons, or 32 per cent. Exports of petroleum asphalt reflected the growing output at refineries and increased 65 per cent over 1925. The total amounted to 146,589 short tons, valued at $3,183,746."

MAY RAISE WISCONSIN TAX

The Wisconsin State Senate has approved a bill raising the gasoline tax from 2 cents to 4 cents. Opposition was met on the grounds that many of the filling stations on the border of the State would lose much of their gallonage to adjacent towns in other states. A bill was then filed, allowing the treasurer to remit the taxes of those stations where this practice was found to exist. The higher gasoline tax was designed to equalize the decreased revenue from automobile license fees with the passing of a bill soon to be presented to the senate which provides a flat license fee of $5 per car. Those in favor of the latter bill point out that a saving of $200,000 will be made annually by decreasing the office labor needed to keep the records of the present system.

PEERLESS MARKETS GASOLINE

In an article from Chicago, appearing in the May 26 issue of The Oil and Gas Journal (page 172) it was stated that the Atlas Petroleum Co. would market the gasoline output of the Peerless Oil & Refining Co. of Chanute, Kans. In a letter, F. E. Reinhardt, president of the Peerless company, states that while some of their output is being sold to the Atlas company, his company will continue to take care of its regular gasoline trade through its own sales department.

COGLEY NEW PRESIDENT

The Texas-Mexican Oil & Refining Co., Inc., of Laredo, Tex., has elected Miles T. Cogley as its new president, and he will be in active charge of the refinery operations. In naming the officers, M. M. Leyendecker was made vice president, Frank A. Lattig secretary and treasurer, and E. G. Mehlburger superintendent. The annual report contains plans for further enlargement and improvement to be made during this year.

Brief Items for Plant Operators

Standard to File Suits Against All Jenkins Licensees

Several refining companies operating the Jenkins cracking process have been notified by the Standard Oil Co. of Indiana that further operation of the process will result in suits being filed by the Standard company for alleged infringement of patent rights. It is understood that this notice has been sent out to all companies using the Jenkins process.

These notices follow the suit filed several weeks ago in the Federal District Court at Hammond, Ind., by the Standard of Indiana against the Bartles-Maguire Oil Co. This suit is based on infringements alleged to be taking place in the operation of the Jenkins cracking process at the East Chicago, Ind., refinery of the Bartles-Maguire company. No other suits were filed by the Standard company at that time. Until the letters were sent out to other licensees of the Jenkins process, it was not definitely known that the Standard company expected to file additional suits.

Patents Cited

In the letters to the Jenkins licensees infringements of the following patents are alleged:

No. 1,105,961, to W. M. Burton, granted August 4, 1914. This patent covers the recovery of a distillate stock from the tar or bottoms from a pressure distillation, and the pressure distillation of such stock alone or together with fresh stock.

No. 1,119,469, to E. M. Clark, granted December 1, 1914. This patent covers, in the pressure distillation of a bulk supply of oil, circulating oil from said bulk supply through a heating zone and back to the bulk supply.

No. 1,119,700, to R. E. Humphreys, granted December 1, 1914. This patent covers passing the vapors from a pressure still through a countercurrent fractionating and stripping reflux condenser in which the insufficiently cracked portions are condensed, and returning the latter to the still.

No. 1,160,689, to W. M. Burton, granted November 16, 1915. This patent covers, in the operation of a pressure still, providing for the expansion and partial cooling of vapors vented from the safety valve and directing their discharge away from the still.

No. 1,167,884, to W. M. Burton, granted January 11, 1916. This patent covers the distillate stocks of abnormally low viscosities derived from the tar or bottoms from a pressure distillation.

No. 1,230,065, to G. Cash, granted June 12, 1927. This patent covers a stuffing box construction for pressure stills or similar devices, provided with a housing to which oil is supplied to cool the stuffing box; such oil may subsequently be fed to the still.

No. 1,343,674, to R. E. Humphreys and W. M. Burton, granted June 15, 1920. This patent covers, in a system in which a pressure still is provided with a reflux fractionating condenser, the use for control of a valve between the reflux condenser and the final condenser.

No. 1,388,514, to E. M. Clark, granted August 23, 1921. This patent covers preheating and dehydrating the stock fed to a pressure still by introducing it directly into the reflux condenser to flow therein countercurrent to the vapors leaving the still.

No. 1,488,254, to W. M. Burton and E. M. Clark, granted March 13, 1923. This patent covers, in pressure distilling a bulk supply of hydrocarbon oil with oil flowing through a heating element to reach the bulk supply of oil, passing the reflux condensate from the vapors through the heating element before introducing it into the bulk supply of oil.

PERFECT NEW WAX AS SUBSTITUTE FOR BEESWAX IN MANY INDUSTRIES

By F. B. Taylor

CASPER, Wyo., June 3.—A new wax that resembles the alcohol beeswax in many particulars and which can be utilized for the pure beeswax in many industries and at a much lower cost has been developed in the research laboratory of the Standard Oil Co. of Indiana here. It is produced from special crude oils found in Wyoming. It is being placed upon the market under the trade name of Superla Wax.

After its discovery the new wax was tested in every way by the laboratory research men. Commercial trials were then made by different firms manufacturing wax articles or using beeswax in the manufacture of their products, including the manufacture of beeswax foundation for the use of apiarists.

One of the largest uses for pure beeswax lies in the manufacture of foundation for beehives. The total amount manufactured into this product in the United States amounts to more than 1,000,000 pounds annually and only pure beeswax is used except in the product of one well-known bee supply firm that has placed a wax made of beeswax and vegetable wax on the market in the form of foundation wax for hives.

A sheet of wax foundation may vary in size from 4 to 10 inches in width. The usual size used in the beehives is 8 inches wide by 16¾ inches in length; this is commonly called brood foundation and is used by the bees to rear the young bees, store honey and pollen and to carry on the hive work. The narrow foundation is used in what is termed the super or honey storage of the hive. Here the bees store their surplus honey which is taken by the beekeeper at the close of the season. A large hive, much deeper than the regular hive of 10-inch depth, requires a sheet of foundation in its frame that is 10 inches deep, while the regular hive body takes a sheet of foundation only 8 inches deep.

The small squares filled with comb honey and called sections, which can be purchased at stores, are also started with a square of foundation, but this is much thinner than the sheets used in the brood chambers of the hive.

The sheets of wax foundation are milled in special machines between steel rolls and the base of the cells is imprinted on

(Continued on Page 134)

BOSSIER CITY CHANGE

SHREVEPORT, La., June 6.—D. F. Gerstenberger has resigned as superintendentof the Bassier City plant of the Louisiana Oil Refining Corp., because of his health, effective June 1. His duties have been assumed temporarily by S. Barna, general superintendent of refineries of the company.

VENTURA GASOLINE PLANT

The Bolsa Chica Oil Co. is building a gasoline plant in the Ventura, Calif., Field capable of making 20,000 gallons daily. At present, gas will be supplied from two wells, the gas yielding about 7,000 gallons daily, and as new wells are brought in the output of the plant will be increased.

AMONG THE TECHNICAL MEN

The recent appointment of Dr. S. Pilat as general manager of the petroleum department of the Polish Government is generally considered as an important step toward the consolidation of the Polish petroleum industry. Doctor Pilat enjoys the experience of being one of the few industrial leaders who combines a thorough scientific training with an industrial and business experience.

Dr. S. Pilat

Doctor Pilat was born in Lwow, Poland, 45 years ago. He obtained his scientific training at the universities of Lwow, Berlin, Charlottenburg and Leipzig and graduated as Ph.D. from Leipzig in 1904. His first job was with an oil company in Boryslaw, which at that time had just begun to develop into the largest oil field in Poland. Next he worked several years with the Stawiarski Petroleum Co. as chemist, chief chemist and assistant superintendent of the refinery in Krosno. Later he went to Rumania, working for a large concern at Ploesti. In 1910 he was appointed by the Ministry of Public Works in Vienna to supervise the construction of the largest European petroleum refinery at Drohobycz. This was not only the largest but the first really modern European refinery, and included in its equipment a continuous distilling plant, a vacuum plant and a research laboratory.

For eight years, Doctor Pilat, as superintendent of the plant, devoted all his time to its development, assisted by a capable staff of chemists and mechanical engineers. In 1918 he was appointed manager of the refiners' organization.

Later he joined the Dabrowa company as general manager of the refining department. In 1923 he resigned to accept a call as professor of petroleum technology at the Lwow University. His appointment as head of the petroleum department came after his return from a trip to this country. During his visit in the United States, Doctor Pilat studied the recent development of the American refining practice, particularly of the cracking processes.

FIRST UNIT OF KIND IN THE MID-CONTINENT

FORT WORTH, Tex., June 6.—Texas Pacific Coal & Oil Co., at its local refinery, fired the furnaces under a new 1,000-bbl. capacity Cross cracking unit this week. The installation is the first of its kind in the Mid-Continent area and is the second in the United States. The first unit of that installation was at the Standard Oil Co. of New York, Providence, R. I., refinery.

By the use of the hot oil pumps 1,000 bbls. of virgin crude, gas oil or fuel oil, can be run through the unit daily. It is so constructed that crude stock can be run through and gas oil and fuel oil taken off the crude if necessary.

A Gray tower has been installed for vapor phase treating of gasoline in the unit. Through the use of the Gray tower, finished gasoline will be obtained without rerunning. A vapor recovery plant has also been installed to use uncondensed vapors and extract gasoline. This installation is expected to yield approximately 1,000 gallons of gasoline daily and the dry gas will be utilized for fuel under the Cross unit.

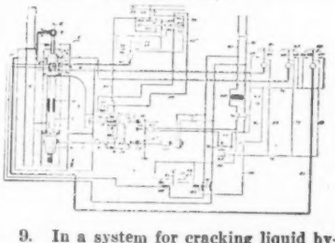
DELIVERY COMPLETED

CASPER, Wyo., June 4.—The Producers & Refiners Corp. has completed the contract for the delivery of 150,000 bbls. of crude at the Casper loading rack, for the Imperial Oil Co. of Canada, to supply the Regina refinery of that firm. The Imperial Oil Co. is still taking all the crude from the Mule Creek Field for the use of the Regina refinery. The falling off in the runs from the Sunburst Field in northern Montana has caused the Canadian refineries to search for more crude supplies and the Mule Creek Field and Casper have been furnishing oil to cover the shortage. Crude from the Mid-Continent Fields cannot be shipped into Canada and allow a profit to the refiners as the haul is too long.

Recent Patents

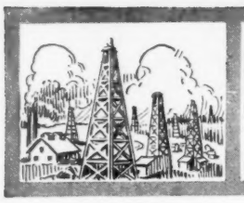
(Additional Patents on Page 162)

1,624,294. Control System. George W. Wallace, San Francisco, and Harry K. Ihrig, Berkeley, Calif.; said Ihrig assignor to said Wallace. Filed September 17, 1923. Serial No. 663,032. 31 Claims. (Cl. 196—132.)



9. In a system for cracking liquid hydrocarbons, a still for the hydrocarbon, means for supplying the hydrocarbon to the still, means for applying heat to the still, a thermal responsive element arranged at the desired level of the hydrocarbon, whereby it responds to the difference in temperature between the hydrocarbon and the vaporized matter above the hydrocarbon as the level varies, and means for simultaneously controlling the supplying means and the heating means in accordance with the thermal condition of the element.

16. A cracking still having a passageway for hydrocarbon to be treated, a chain in the passageway arranged to be constantly driven to prevent the accumulation of deposits, an electric motor for driving the chain, and means responsive to load conditions on the motor for deenergizing the motor.



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	June 7		May 31		May 24	
OKLAHOMA (Group 3)—						
50-42 450 endpoint (Naphtha)	.06⅜	.06½	.06¼		.06¼	
56-58 450 endpoint	.06⅜	.06½	.06¼		.06¼	
58-60 450 endpoint	.06⅜	.06½	.06¼	.06½	.06¼	
58-60 437 end point (U. S. Motor)	.06⅝	.06¾	.06½	.06¾	.06½	.06¾
60-62 400 end point	.07		.07	.07¼	.06¾	.07
64-66 375 endpoint	.07¼		.07¼		.07	.07¼
68-70 360 endpoint	.07½	.07¾	.07½	.07¾	.07½	.07¾
64-66 437 endpoint	.06½		.06½		.06½	
KANSAS—						
58-60 437 endpoint (U. S. Motor)	.07		.06¾	.07	.06¾	.07
NORTH TEXAS—						
48-50 450 endpoint (Naphtha)	.06¼	.06¼	.06	.06¼	.06	.06¼
56-58 450 endpoint	.06¼	.06½	.06¼	.06½	.06¼	.06½
58-60 437 endpoint (U. S. Motor)	.06½	.06⅝	.06½	.06⅝	.06½	.06⅝
60-62 400 endpoint	.06¾	.07	.06¾	.07	.06¾	
64-66 390 endpoint	.07		.07		.06⅞	.07
64-66 375 endpoint	.07	.07¼	.07	.07¼	.07	
68-70 360 endpoint	.07½		.07½		.07½	
64-66 437 endpoint (blend)	.06½		.06¼	.06½	.06¼	.06½
NORTH LOUISIANA—						
56-58 437 endpoint (U. S. Motor)	.06¾	.07	.06¾		.06¾	
ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.07		.06¾		.06¾	
PENNSYLVANIA—						
52-54 Naphtha	.07¾	.08½	.07¾	.08½	.08¼	.09
54-56 Naphtha	.08½	.08¾	.08¼	.08½	.08¾	.09
58-60 Gasoline	.09	.09¼	.08½	.08¾	.08½	.08¾
60 Gasoline	.09¼	.09½	.09¼	.09½	.09¼	.09½
62 Gasoline	.10	.10¼	.10	.10¼	.10	.10¼
64 Gasoline	.10¼	.10½	.10¼	.10½	.10¼	.10½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.07½	.08½	.09	.10½	.09	.10½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.06¼	.06½	.06¼		.06¼	
56-58 450 endpoint	.06¼	.06⅜	.06¼	.06¾	.06¼	.06⅜
58-60 437 endpoint (U. S. Motor)	.06¾		.06½	.06¾	.06½	.06¾
60-62 400 endpoint	.07	.07⅛	.06¾	.07	.06¾	.07
64-66 375 endpoint	.07¼		.07	.07¼	.07	
68-70 360 endpoint	.07½	.07¾	.07½		.07½	.07¾
64-66 437 endpoint (blend)	.06½		.06½		.06¼	.06½

NATURAL GASOLINE

	June 7		May 31		May 24	
OKLAHOMA (Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05¼		.06		.06⅛	.06¼
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.06		.06⅛	.06¼
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼		.05½		.05⅜	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¼		.05½		.05¾	
Grade C, 80-90, 375 e.p., rec. 78%	.05	.05¼	.05¼	.05½	.05½	
NORTH TEXAS—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05¼	.05½	.05¾	.06	.06⅛	.06¼
Grade A, 72-79.9, 375 e.p., rec. 90%	.05¼	.05½	.05¾	.06	.06⅛	.06¼
Grade BB, 84-92, 375 e.p., rec. 85%	.05	.05¼	.05¼	.05½	.05½	.05¾
Grade B, 76-83.9, 375 e.p., rec. 85%	.05	.05¼	.05¼	.05½	.05½	.05¾
Grade C, 80-90, 375 e.p., rec. 78%	.05		.05¼		.05¼	.05½
NORTH LOUISIANA—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½	.05¾	.06		.06¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼	.05½	.06		.06¼	
Grade C, 80-90, 375 e.p., rec. 78%	.05		.05	.05¼	.05¼	.05½
CALIFORNIA—						
75-85, 375, 390 endpoint	.09	.10	.09	.10	.09	.10
CHICAGO DISTRICT (Based on Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05½		.06		.05¾	
Grade A, 72-79.9, 375 e.p., rec. 90%	.05½		.06		.05¾	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼		.05½	.05¾	.05¼	.05½
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¼		.05½	.05¾	.05¼	.05½
Grade C, 80-90, 375 e.p., rec. 78%	.05	.05¼	.05¼	.05½	.05	

BURNING OIL

	June 7		May 31		May 24	
KANSAS—						
41-43 water white Kerosene	.04½	.04¾	.04¾	.05	.04¾	.05
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04¼	.04½	.04⅜	.04½	.04⅜	.04½
42-44 water white Kerosene	.04⅝	.04¾	.04¾		.04¾	
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04¾		.04¾		.04½	.04¾
42-43 water white Kerosene	.05	.05¼	.05	.05¼	.05	.05¼
NORTH TEXAS—						
41-43 water white Kerosene	.04¼		.04⅜	.04½	.04¼	.04½
ARKANSAS—						
41-43 water white Kerosene	.04⅝	.04¾	.04⅝	.04¾	.04⅝	.04¾
PENNSYLVANIA—						
43 Kerosene prime white	.06¼	.06½	.06¼	.06½	.06¼	.06½
45 Kerosene water white	.06⅝	.06⅝	.06⅜	.06⅝	.06⅜	.06¾
46 Kerosene water white	.06⅞	.07⅛	.06⅞	.07⅛	.06⅞	.07⅛
47 Kerosene water white	.07	.07¼	.07	.07¼	.07	.07¼
300 Mineral Seal	.07¾	.08	.07¾	.08	.07¾	.08
CALIFORNIA—						
38-40 water white (high burning test)	.05¾	.06½	.05¾	.06½	.05¾	.06½
Engine distillate, 43-45 445 endpoint	.07	.07½	.07	.07½	.07	.07½
Engine distillate, 42-44 480 endpoint	.06¾	.07	.06¾	.07	.06¾	.07
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.04⅝	.04½	.04⅝	.04½	.04½	.04⅝
42-44 water white Kerosene	.04⅝	.04¾	.04¾	.05	.04¾	.05

FUEL OILS

	June 7		May 31		May 24	
KANSAS—						
24-26 Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
32-36 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
38-40 Distillate	.03½		.03½		.03½	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil	.85	.87½	.85	.87½	.85	.87½
18-22 Fuel Oil	.87½	.90	.87½	.90	.87½	.90
22-26 Fuel Oil	.90	.92½	.90	.92½	.90	.92½
24-26 Fuel Oil	.90	.95	.92½	.95	.92½	.95
26-30 Fuel Oil	.95	.97½	.97½	1.00	.97½	1.00
28-30 Fuel Oil	1.00	1.05	1.00	1.05	1.00	1.05
32-36 Gas Oil (dark)	.02⅝		.02¾		.02¾	
32-36 Gas Oil (straw overhead)	.02⅝	.02¾	.02¾	.02⅞	.02¾	.02⅞
36-38 Distillate	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
38-40 Straw Distillate	.03¼	.03½	.03¼	.03½	.03¼	.03½
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	.85	.90	.87½	.92½	.85	.90
32-36 Gas Oil (straw)	.02⅝	.02¾	.02⅝	.02¾	.02¾	.03
38-40 Straw Distillate	.03	.03¼	.03	.03¼	.03⅛	.03¼
NORTH LOUISIANA—						
18-20 Fuel Oil	1.10	1.15	1.10	1.15	1.10	1.15
32-36 Gas Oil	.03	.03¼	.03	.03¼	.02¾	.03
ARKANSAS—						
36-38 Distillate	.03½	.03¾	.03½	.03¾	.03¼	.03½
32-36 Gas Oil (straw)	.02¾	.03	.02¾	.03	.02¾	.03
16-20 Refinery Fuel Oil	1.00	1.05	1.00	1.05	.95	
GULF COAST (South Texas)—						
Gas Oil	.04¼	.04⅜	.04¼	.04⅜	.04¼	.04⅜
Fuel Oil	1.50	1.60	1.50	1.60	1.50	1.60
PENNSYLVANIA—						
30-34 Fuel Oil	.04¼	.04¾	.04½	.05	.04¾	.05
36-40 Fuel Oil	.04¾	.05	.04¾	.05	.05	.05¼
CALIFORNIA—						
33-36 Distillate	.03¾	.04	.03¾	.04	.03¾	.04
27-32 Distillate	.03¼	.03¾	.03¼	.03¾	.03¼	.03¾
*25-20 Fuel Oil, Bunkers (at tide water)	.85	1.00	.85	1.00	.85	1.00
15-20 Fuel Oil (cargo lots)	.71	.75	.71	.75	.71	.75
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3	.95	.97½	.95		.92½	.95
22-26 Fuel Oil (sellers' cars) Group 3	.90	.92½	.90	.92½	.90	.92½
18-22 (Group 3)	.87½	.90	.85	.90	.85	.87½
16-20 Smackover	1.10	1.15	1.12½		1.12½	1.15
32-36 Gas Oil (zero)	.02⅞	.03	.02⅞	.03	.02⅞	.03⅛
32-36 Gas Oil (industrial)	.02¾	.02⅞	.02¾	.02⅞	.02⅝	.02⅞
36-38 Distillate	.03	.03⅛	.03	.03⅛	.03¼	
38-40 Straw Distillate	.03¼	.03⅜	.03¼		.03	

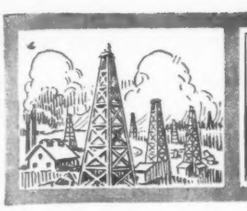
*Bunkers.

LUBRICATING OIL AND WAX

	June 7		May 31		May 24	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06½	.06¾	.06½	.06¾	.06½	.06¾
100 vis , 3 color, 20-25 cold test	.06¼	.06½	.06¼	.06½	.06¼	.06½
150 vis., 3 color, 20-25 cold test	.08½	.08¾	.08½	.08¾	.08½	.08¾
150 vis., 4 color, 20-25 cold test	.08¾	.08½	.08¼	.08½	.08¼	.08½
180 vis., 3 color, 23-28 cold test	.10	.10¼	.10	.10¼	.10	.10¼
180 vis., 4 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
180 vis., 5 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
200 vis , 3 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
200 vis., 4 color, 23-28 cold test	.10⅜	.10⅞	.10⅜	.10⅞	.10⅜	.10⅞
200 vis., 5 color, 23-28 cold test	.10½	.10¾	.10½	.10¾	.10½	.10¾
240 vis., 3 color, 25-30 cold test	.14	.14¼	.14	.14¼	.14	.14¼
240 vis., 4 color, 25-30 cold test	.13½	.13¾	.13½	.13¾	.13½	.13¾
240 vis., 5 color, 25-30 cold test	.12½	.13	.12½	.13	.12½	.13
280 vis , 3 color, 25-30 cold test	.15¾	.16¼	.15¾	.16¼	.15¾	.16¼
280 vis., 4 color, 25-30 cold test	.15¼	.15½	.15¼	.15½	.15¼	.15½
280 vis., 5 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
Cylinder Stocks:						
600, steam refined, light green	.07½	.10	.07½	.10	.07½	.10
600, steam refined, dark green	.05	.06	.05	.06	.05	.06
190-200 vis. @ 210 Bright Stock	.31	.33	.31	.33	.31	.33
150-160 vis. @ 210 Bright Stock	.26		.26		.26	
Waxes:						
124-126 White Crude Scale Wax	.02⅝	.02¾	.02½	.02¾	.02½	.02¾
PENNSYLVANIA—						
34 Neutral	.07¼	.07½	.07¼	.07½	.07¾	.07½
34 Sundebloom Neutral	.08½	.08¾	.08½	.08¾	.08½	.08¾
36 Miners' Neutral	.07	.07¼	.07	.07¼	.07	.07¼
150, 3 color	.28¼	.28½	.28¼	.28½	.28¼	.28½
180, 3 color	.32¼	.32½	.32¼	.32½	.32¼	.32½
200, 3 color	.34¼	.34½	.34¼	.34½	.34¼	.34½
220, 3 color	.34¼	.36½	.34¼	.36½	.34¼	.36½
600, steam refined	.08¾	.09	.08¾	.09	.08¾	.09
635, steam refined	.10¾	.11	.10¾	.11	.10¾	.11
650, steam refined	.12¾	.13	.12¾	.13	.12¾	.13
600, Pennsylvania flash	.17½	.18	.17½	.18	.17½	.18
630, Pennsylvania flash	.28	.28½	.28½	.28	.28	.28½
*550, E filtered	.17¼	.18	.17¼	.18	.17¼	.18
*600, E filtered	.18¼	.18¾	.18¼	.18¾	.18¼	.18¾
600, E filtered	.17¼	.17¾	.17¼	.17¾	.17¼	.17¾
600, D filtered	.25	.25½	.25	.25½	.25	.25½
550, E filtered	.17½	.18	.17¼	.18	.17½	.18
550, D filtered	.21½	.22	.21½	.22	.21½	.22
Pennsylvania Bright Stock	.33	.33½	.33	.33½	.33	.33½
†122-124 White Crude Scale Wax	.02⅞	.03	.02⅝	.02¾	.02⅝	.02¾
†124-126 White Crude Scale Wax	.03	.03⅛	.02¾	.02⅞	.02¾	.02⅞

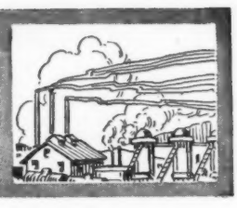
*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—							
No. 2 color, 100 vis., pale oil	.07	.08	.07	.08	.07	.08
No. 3 color, 200 vis., pale oil	.10½	.11½	.10½	.11½	.10½	.11½
No. 3 color, 300 vis., pale oil	.11½	.12½	.11½	.12½	.11½	.12½
No. 3½ color, 500 vis., pale oil	.13½	.14	.13½	.14	.13½	.14
No. 4 color, 750 vis., pale oil	.16	.16½	.16	.16½	.16	.16½
No. 5 to 6 color, 200 vis., red oil	.08½	.09½	.08½	.09½	.08½	.09½
No. 5 to 6 color, 300 vis., red oil	.10	.11	.10	.11	.10	.11
No. 5 to 6 color, 500 vis., red oil	.11½	.12½	.11½	.12½	.11½	.12½
No. 5 to 6 color, 750 vis., red oil	.14½	.15½	.14½	.15½	.14½	.15½
No. 2 color, 200 vis., pale filtered	.13	.14	.13	.14	.13	.14
No. 2 color, 300 vis., pale filtered	.14	.15	.14	.15	.14	.15
No. 2½ color, 500 vis., pale filtered	.16	.17	.16	.17	.16	.17
No. 2½ color, 750 vis., pale filtered	.20		.20		.20	
CALIFORNIA—							
130 vis., 2½-3 color	.10½	.11	.10½	.11	.10½	.11



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields



200 vis., 2½-3	color	.11	.11½	.11	.11½	.11	.11½
300 vis., 3 -3½	color	.11½	.12	.11½	.12	.11½	.12
350 vis., 3½-4	color	.12	.13	.12	.13	.12	.13
400 vis., 3½-4	color	.13	.15½	.13	.15½	.13	.15½
Red Neutral:							
200 vis., 4½-5	color	.09½	.10½	.09½	.10½	.09½	.10½
300 vis., 5 -6	color	.10½	.11	.10½	.11	.10½	.11
400 vis., 5 -6	color	.12	.13½	.12	.13½	.12	.13½
500 vis., 4½-5	color	.13½	.14½	.13½	.14½	.13½	.14½
500 vis., 5 -6½	color	.12½	.13½	.12½	.13½	.12½	.13½
600 vis., 6½ plus	color	.13½	.14½	.13½	.14½	.13½	.14½

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	June 7	May 31	May 24
Gasoline, U. S. Motor, 58-60 437	.09	.08¾	.09
Kerosene, water white, 41-43	.07½	.07½	.07½
*Fuel Oil, bunker "C," 14-16, per bbl.	1.65	1.65	1 75
*Fuel Oil, Diesel, 28-30, per bbl.	2.20	2.20	2.30
Gas Oil, 28 plus	.05½	.05½	.05¾
25 pale Paraffin Oil	.11¾	.11¾	.11¾
28 pale Paraffin Oil	.07¼	.07¼	.07¼
285 red Paraffin Oil	.12¾	.12¾	.12¾
250 red Paraffin Oil	.11¾	.11¾	.11¾
225 red Paraffin Oil	.10¾	.10¾	.10¾
200 red Paraffin Oil	.09¾	.09¾	.09¾
Refined Wax:			
120-122 a.m.p., per lb.	.03⅞	.03⅞	.03⅞
125-127 a m.p., per lb.	.04	.04	.04
130-132 a.m.p., per lb.	.04½	.04½	.04⅝
135-137 a.m.p., per lb.	.05	.05	.04⅞
Petrolatum, in bbls.; carload lots, per lb.:			
Dark green	.01¾	.01¾	.01¾
Amber	.03¼	.03¼	.03¼
Extra amber	.03⅝	.03⅝	.03⅝
Cream	.05½	.05½	.05½
Lily white	.07	.07	.07
Snow white	.08	.08	.08

*Lighterage 6 5c a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	June 7	May 31	May 24
Gasoline, U. S. Motor, 58-60 437, in cases	.2490	.244	.244
Kerosene, standard white, in cases	.1615	.1615	.1615
Kerosene, water white, in cases	.1715	.1715	.1715
600 steam refined cylinder stock, in bbls.	.18	.18	.18
635 steam refined	.20	.20	.20
650 steam refined	.22	.22	.22
600 Pennsylvania flash	.26	.26	.26
630 Pennsylvania flash	.34	.34	.34
600 Warren E	.36	.36	.36
600 Oil City E	.24½	.24½	.24½
Light 135 Bright Stock	.42	.42	.42
Dark 135 Bright Stock	.40	.40	.40

LOS ANGELES EXPORT PRICES

	June 7		May 31		May 24	
Kerosene water white	.04¼	.04½	.04¼	.04½	.04¼	.04½
U. S. Motor Gasoline, 53-55 437 e.p.	.05½	.06½	.06½	.07	.06½	.07

CALIFORNIA CRUDE PRICES

***Standard Oil Co.-Union Oil Co. (Effective April 1, 1927)**

Gravity—	1 Fullerton Seal Beach Long Beach Huntington Beach Richfield Rosecrans-Dom'guez Torrance-Inglewood	2 Whittier La Habra Montebello	3 Kern River Newhall-McKittrick Midway-Sunset Elk Hills Lost Hills Belridge Buena Vista Hills	4 Coyote	5 Santa Fe Springs	6 Coalinga	7 Wheeler Ridge	8 Santa Maria Ventura, Orcutt Salt Lake
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.85	.85	.75	.85	....	.75	.75	.85
16°	.85	.85	.75	.85	....	.75	.75	.85
17°	.85	.85	.75	.85	....	.75	.75	.85
18°	.85	.85	.75	.85	....	.75	.75	.85
19°	.85	.85	.75	.85	....	.75	.75	.85
20°	.85	.85	.77	.85	....	.76	.76	.85
21°	.86	.85	.79	.86	.85	.77	.77	.85
22°	.87	.85	.81	.87	.85	.78	.78	.85
23°	.88	.85	.83	.88	.85	.79	.79	.85
24°	.89	.85	.85	.89	.85	.80	.80	.85
25°	.90	.86	.87	.90	.86	.81	.81	.86
26°	.92	.87	.89	.91	.87	.83	.82	.87
27°	.94	.88	.91	.92	.88	.85	.83	.88
28°	.96	.89	.93	.93	.89	.87	....	.89
29°	.98	.90	.96	.94	.91	.89	....	.91
30°	1.00	.91	.99	.95	.93	.91	....	.93
31°	1.03	....	1.02	....	.95	.93	....	.95
32°	1.06	....	1.05	....	.97	.95	....	.97
33°	1.09	....	1.08	....	.99	.97	....	.99
34°	1.12	....	1.11	....	1.01	.99	....	1.01
35°	1.15	....	....	....	1.03	1.01	....	1.03
36°	1.18	....	....	....	1.06	....	....	1.06
37°	1.21	....	....	....	1.09	....	....	1.09
38°	1.24	....	....	....	1.12	....	....	1.12
39°	1.27	....	....	....	1.15	....	....	1.15
40°	1.30	....	....	....	....	....	....	....
41°	1.33	....	....	....	....	....	....	....
42°	1.36	....	....	....	....	....	....	....

*Column 1—Long Beach, Seal Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Fullerton, 14 to 30 degrees; Torrance and Inglewood, 14 to 28 degrees; Domingues, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.

Column 2—Whittier crude, 14 to 22 degrees; Montebello, 14 to 30 degrees.

Column 3—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset, Buena Vista and Elk Hills, 14 to 33 degrees; Lost Hills and Belridge, 14 to 34 degrees.

Column 8—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura and Orcutt, 14 to 39 degrees. Posted only by Union Oil Co.

CRUDE OIL GRAVITY PRICE TABLE

Gravity—	1 Okla., Kans., N. C. Tex., La.-Ark.	2 *Smackover, Ark.	3 Stephens, Ark.	4 Wheeler and Gray Counties, (Texas Panhandle)	5 Crane, Upton & Crockett Counties (West Texas)	6 Salt Creek, Wyo.	7 Grade B & Light Crude (G. Coast)	8 Somerset (South Central Texas)
Below 24	....	1.00	..	....	....	....	....	....
24 to 24.9	....	1.25	....	....	....	....	....	....
Below 25	....	....	....	....	....	....	1.15	....
25 to 25.9	....	....	....	....	....	....	1.17	....
Below 26	....	....	....	....	70	....	....	....
26 to 26.9	....	....	....	....	.72	....	1.19	....
27 to 27.9	....	....	....	....	.74	....	1.21	....
Below 28	****	....	1.00	....	....	....	....	....
28 to 28.9	1.12	....	1.02	.80	.76	....	1.23	....
29 to 29.9	1.14	....	1.04	.82	.78	1.14	1.25	....
30 to 30.9	1.16	....	1.06	.84	.80	1.16	1.27	....
31 to 31.9	1.18	....	1.08	.86	.82	1.18	1.29	....
32 to 32.9	1.20	....	1.10	.88	.84	1.20	1.31	1.05
33 to 33.9	1.22	....	....	.90	.86	1.22	1.33	1.07
34 to 34.9	1.24	....	....	.92	.88	1.24	1.34	1.09
35 to 35.9	1.26	....	....	94	.90	1.26	1.37	1.11
36 to 36.9	1.28	....	....	.96	.92	1.28	....	1.13
37 to 37.9	1.30	....	....	.98	....	1.30	....	1.15
38 to 38.9	1.32	....	....	1.00	....	....	....	1.17
39 to 39.9	1.34	....	....	1.02	....	....	....	....
40 to 40.9	1.36	....	....	1.04	....	....	....	....
41 to 41.9	1.38	....	....	1.06	....	....	....	....
42 to 42.9	1.40	....	....	1.08	....	....	....	....
43 to 43.9	1.42	....	....	1.10	....	....	....	....
44 to 44.9	1.44	....	....	1.12	....	....	....	....
45 to 45.9	1.46	....	....	....	....	....	....	....
46 to 46.9	1.48	....	....	....	....	....	....	....
47 to 47.9	1.50	....	....	....	....	....	....	....
48 to 48.9	1.52	....	....	....	....	....	....	....
49 to 49.9	1.54	....	....	....	....	....	....	....
50 to 50.9	1.56	....	....	....	....	....	....	....
51 to 51.9	1.58	....	....	....	....	....	....	....
52 and above	1.60	....	....	....	....	....	....	....

Column 1—Magnolia Petroleum Co. posted new schedule May 5, making price below 33 gravity $1.05 per barrel, with 2 cents increase per degree higher in gravity, taking 33-33.9 gravity at $1.07 as basis, with a top price of $1.45 for 52 and above.

Oklahoma: Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., March 12; Carter Oil Co., The Texas Company, March 14.

North Central Texas—(Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas), Iatan and Panola (Magnolia only), Currie, Nocona, Moran and Corsicana light); Texas, Prairie, Sinclair and Gulf, March 12; The Texas Company, Humble Oil & Refining Co., March 14.

Kansas—Prairie, Sinclair, March 12; Carter, Texas, March 14.

Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, DeSoto, Haynesville, Homer and El Dorado only); Standard Oil Co. of Louisiana, March 14; The Texas Company, March 14; Magnolia Petroleum Co., Pine Island, Haynesville and Bull Bayou, El Dorado, Gulf Pipe Line Co., March 14.

Column 2—Standard Oil Co. of Louisiana, The Texas Company, Gulf, Atlantic, March 17, Magnolia Petroleum Co. (March 16) posted price of $1 for below 24 degrees and $1.15 for 24 and above. Louisiana Oil Corp. posted following prices effective March 16: Below 24, $1; 24 to 27.9, $1.15; 28 to 28.9, $1.17; 29 to 29.9, $1.19; 30 and above, $1.21.

Column 3—Atlantic Oil Producing Co., March 14.

Column 4—Humble Oil & Refining Co. and Gulf Pipe Line Co., March 14.

Column 5—Humble Oil & Refining Co., Kay County Gas Co. and Gulf Pipe Line Co., March 14.

Column 6—Midwest Refining Co., March 12. All crude over 37 gravity, $1.30 per barrel.

Column 7—Humble Oil & Refining Co. and other major buyers (schedule ends "35 and above"), March 14, with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. posts 2 cents differential for each degree above 35 gravity and $1.47 for 40 gravity and above.

Column 8—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

****Prices for crude below 28 gravity: Oklahoma, Kansas and Texas, Magnolia Petroleum Co., $1.10, March 12; Arkansas, North Louisiana, March 14. Other companies, 2 cents less for each degree with exception of Humble Oil & Refining Co., which pays $1.12 for crude below 28 degrees gravity.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

*Corsicana heavy (March 14, 1927)	$1.00
Other fields	See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

*Carson County	$ .95
*Hutchinson County	.95
Gray-Wheeler Counties	See gravity table

*Humble Oil & Refining Co., Magnolia Petroleum Co., Gulf Pipe Line Co. and Kay County Gas Co., March 14.

WEST TEXAS

*Iatan (Same as North Texas)	
Crane-Upton-Crockett	See gravity table

*Includes Howard County and Westbrook Fields. Kay County Gas Co., pays $1.05 for Howard County crude, effective May 21.

ARKANSAS-NORTH LOUISIANA

Cotton Valley (March 17)	$1.00
Bellevue (Feb. 24, 1927)	1.25
Urania (March 16, 1927)	1.00
East El Dorado (March 16)	1.00
Other fields	See gravity table

Note—Cotton Valley and Bellevue, Standard Oil Co. of Louisiana, Gulf Refining Co. and Magnolia Petroleum Co.; Urania, Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop.)

‡Grade A (March 14)	$1.20
Grade B	See gravity table
*Jennings, La. (March 14)	1.05
†Saratoga, Batson, Dayton (March 14, 1927)	1.20
**Markham March 14	1.00

*Gulf Pipe Line Co. †Sun Pipe Line Co. ‡Humble Oil & Refining Co. and other major buyers. **The Texas Company.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

*Luling (May 5)	$1.00
†Mirando (March 14)	1.00
Rockdale-Minerva (Milam County)	1.25
*Thrall	....
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co. Thrall prices same as north central Texas less 19¼ cents per cwt. freight.

†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Pipe Line Co.

ROCKY MOUNTAIN STATES

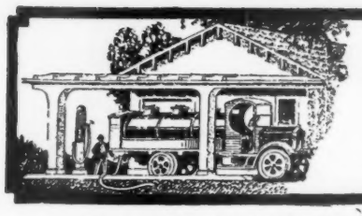
Ohio Oil Co.-Midwest Refining Co.

(Effective March 14)

Rock Creek, Wyo. (March 12)	$1.25
Salt Creek	See gravity table
Big Muddy (March 12)	1.25
Mule Creek (May 1)	1.10
Grass Creek, light (March 12)	1.33
Grass Creek, heavy	.98
Elk Basin (March 12)	1.33
Lance Creek (March 12)	1.33
Poison Spider	1.00
Notches	.65
Rex Lake (February 23)	1.10
Osage	1.33
Lost Soldier (contract) (May 17)	1.60
Greybull-Torchlight	1.33
Hamilton Dome	1.35
Cat Creek (Mont.)	1.33
Sunburst (Mont.) (October 5)	1.35
Artesia (March 12)	1.00
Hogback (N. Mex.) (March 14)	1.30

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining

(Continued on Page 130)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns June 7.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Chicago dist.	14.0	16.0	...	12.0
Decatur, Ill.	14.2	16.2	...	12.1
E. St. Louis	13.1	15.35	...	11.2
Joliet	14.4	16.4	...	12.3
Peoria	14.2	16.2	...	12.1
Quincy	14.2	16.2	...	10.9
Davenport, Ia.	16.5	18.5	2.0	12.3
Des Moines	16.0	18.0	2.0	12.3
Keokuk	16.5	18.5	2.0	12.3
Sioux City	16.1	18.1	2.0	11.9
Duluth, Minn.	17.5	19.5	2.0	12.9
Minneapolis	15.0	17.0	2.0	12.9
Mankato	15.1	17.1	2.0	12.7
LaCross, Wis.	17.2	19.2	2.0	13.0
Milwaukee	16.1	18.1	2.0	11.9
Madison	16.3	18.3	2.0	12.1
Detroit, Mich.	16.8	18.8	2.0	12.7
Grand Rapids	16.7	18.7	2.0	13.6
Saginaw	16.9	18.9	2.0	13.6
Evansville, Ind.	17.0	19.0	3.0	13.0
Ft. Wayne	17.4	19.4	3.0	13.4
Indianapolis	17.2	19.2	3.0	13.2
South Bend	17.4	19.4	3.0	13.4
Fargo, N. D.	17.0	19.0	2.0	14.9
Huron, S. D.	15.5	17.5	2.0	13.9
Sioux Falls	17.3	19.3	3.0	13.4
*K. C., Mo.	16.9	18.9	3.0	10.6
*Springfield	16.8	18.8	3.0	11.5
*St. Louis	15.8	17.9	2.5	11.3
*St. Joseph	16.5	18.5	3.0	11.2
Wichita, Kans.	14.8	16.8	2.0	10.8
Bartlesville, Ok.	15.8	17.8	3.0	10.8

NAPHTHAS

	Tank wagon	Tank car
Oleum spirits	16.0	11.75
V. M. & P. Naphtha	18.0	13.75
Cleaner's naphtha	18.0	13.75
Stanisol	19.0	...

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL

Less than 100 gallons	9.0
100 to 799 gallons	8.0
800 or more gallons	7.5

Tank wagon prices of gasoline subject to discount of 1 cent a gallon on dumps of 50 gallons or more throughout territory except Chicago district where discount applies only to dumps of 100 gallons. Kerosene subject to 1 cent discount on dumps of 50 gallons or more.

In addition the following quantity discount schedule is in effect on monthly tank wagon deliveries of gasoline 6,000 gallons or more, 1½ cents; 10,000 gallons or more, 2 cents; 15,000 gallons or more, 3 cents. In the Chicago district purchases of 750 to 2,000 gallons a month discounted one-half cent; and, 2,000 to 6,000 gallons, three-quarters cent. If the quantity bought during the year is 12 times the monthly agreed purchases the discount is paid or credited on the entire quantity less monthly payments.

Monthly service station deliveries of 200 gallons or more, and annual deliveries of 2,400 gallons or more are discounted 2 cents.

*State tax 2 cents; remainder city tax.

SOUTHWESTERN DISTRICT

*Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Dallas, Tex.	13.0	16.0	3.0	11.0
Fort Worth	13.0	16.0	3.0	10.0
Houston	15.0	19.0	3.0	15.0
San Antonio	13.0	16.0	3.0	11.0
El Paso	17.0	19.0	3.0	16.0
Texarkana	15.0	18.0	3.0	12.0
Muskogee, Ok.	14.0	17.0	3.0	10.0
Okla. City	14.0	17.0	3.0	10.0
Tulsa	14.0	17.0	3.0	10.0
Little Rock	17.0	20.0	4.0	12.0
Ft. Smith, Ark.	17.0	20.0	4.0	12.0

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, one-half cent; over 2,000 gallons, three-quarters cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cents; over 6,000 gallons, 1½ cents; over 9,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons a month, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases in the tank wagon discounts.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
*N. Orleans, La.	15.5	18.5	3.0	14.0
Baton Rouge	14.0	17.0	2.0	12.5
Alexandria	15.0	18.0	2.0	14.0
LaFayette	16.0	18.0	2.0	13.5
Lake Charles	15.5	18.5	2.0	14.0
Shreveport	14.0	17.0	2.0	13.0
Knoxville, Tenn.	19.5	22.5	3.0	15.0
Memphis	13.0	16.0	3.0	14.0
Chattanooga	19.5	22.5	3.0	15.0
Nashville	16.5	19.5	3.0	15.0
Bristol	19.0	22.0	3.0	14.0
Lit. Rock, Ark.	17.0	20.0	4.0	12.0

*Tax of 3 cents includes city tax of 1 cent.
*Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

OHIO

Standard Oil Co. (Ohio)

	Tank wagon	Service station	Incids tax of	Tank wagon
	Gasoline			Kero.
All Ohio points	19.0	21.0	3.0	15.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Atlanta, Ga.	18.0	21.0	4.0	15.0
Augusta	19.0	22.0	4.0	16.0
Macon	19.0	22.0	4.0	16.0
Savannah	18.0	20.0	4.0	14.0
Birm'h'm, Ala.	18.0	21.0	4.0	15.5
Mobile	17.0	20.0	4.0	15.0
Montgomery	19.0	22.0	5.0	16.5
Clarks'le, Miss.	17.0	20.0	4.0	13.5
Jackson	17.0	20.0	4.0	14.5
Natchez	16.5	19.5	4.0	14.0
Gulfport	17.5	21.5	6.0	14.0
Vicksburg	16.5	19.5	4.0	14.0
Jack'ville, Fla.	17.0	20.0	4.0	14.0
Miami	19.0	22.0	4.0	15.5
Pensacola	18.0	21.0	5.0	15.0
Tampa	16.0	19.0	4.0	14.0
Covington	20.0	23.0	5.0	15.5
Louisville	19.0	22.0	5.0	15.0
Lexington, Ky.	18.0	21.0	5.0	15.5

In addition to the state tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Prices in Georgia include one-half cent inspection fee on gasoline and kerosene; in Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene only. Pensacola tax includes 1 cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Pittsburgh, Pa.	16.0	*21.0	...	14.0
Philadelphia	14.0	18.0	...	14.0
Scranton	16.0	*21.0	...	14.0
Allentown	16.0	*21.0	...	14.0
Altoona	16.0	*21.0	...	14.0
Erie	14.0	19.0	...	14.0
Dover, Del.	19.0	22.0	3.0	14.0
Wilmington	19.0	22.0	3.0	14.0
Spring'd, Mass.	17.0	19.0	...	15.0
Worchester	17.0	19.0	...	15.0
Boston	17.0	19.0	...	15.0
Providence, R.I.	18.0	20.0	1.0	15.0
Hartford, Conn.	21.0	23.0	2.0	15.0
New Haven	21.0	23.0	2.0	15.0

*Includes tax of 2 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Atlantic City	16.0	....	...	14.0
Newark, N. J.	16.0	18.0	...	14.0
Annapolis, Md.	20.0	23.0	4.0	14.0
Baltimore	20.0	23.0	4.0	10.0
Cumberland	20.0	23.0	4.0	14.0
Washington	16.0	19.0	2.0	12.0
Danville, Va.	20.5	....	4.5	14.0
Norfolk	20.5	20.5	4.5	14.0
Petersburg	20.5	23.5	4.5	14.0
Roanoke	20.5	23.5	4.5	14.0
Richmond	20.5	23.5	4.5	14.0
Charleston, W. Va.	19.5	22.5	3.5	14.0
Keyser	19.5	....	3.5	14.0
Parkersburg	16.5	19.5	3.5	14.0
Wheeling	19.5	22.5	3.5	14.0
Charlotte, N. C.	20.0	23.0	4.0	14.0
Hickory	20.0	23.0	4.0	14.0
Mt. Airy	20.0	23.0	4.0	14.0
Salisbury	20.0	23.0	4.0	14.0
Charl'st'n, S. C.	20.0	23.0	5.0	14.0
Columbia	20.0	20.0	5.0	15.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Albany, N. Y.	19.0	21.0	...	15.0
*New York	19.0	23.0	...	15.0
Buffalo	18.0	21.0	...	14.0
Rochester	17.0	20.0	...	14.0
Syracuse	19.0	21.0	...	15.0
Boston, Mass.	17.0	19.0	...	15.0
Augusta, Me.	23.0	26.0	3.0	15.0
M'nchst'r, N.H.	17.0	21.0	2.0	15.0
Burlington, Vt.	21.0	23.0	3.0	15.0

*Price in steel barrels.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
San Francisco	15.0	19.0	2.0	15.5
Pueblo	16.0	16.0	2.0	15.5
Los Angeles	14.5	18.5	2.0	15.5
Reno, Nev.	21.0	25.0	4.0	19.0
Portland, Ore.	16.5	20.5	3.0	16.5
Seattle, Wash.	15.5	19.5	2.0	16.5
Tacoma	15.5	19.5	2.0	16.5
Spokane	19.5	23.5	2.0	20.5
Phoenix, Ariz.	21.0	25.0	3.0	20.5

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Omaha	15.25	18.25	2.0	12.25
McCook	17.75	19.75	2.0	13.75
Norfolk	16.75	18.75	2.0	12.75
N. Platte	17.75	19.75	2.0	13.50
Scottsbluff	17.25	19.25	2.0	13.00

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
Denver, Colo.	17.0	18.0	2.0	14.5
Pueblo	17.0	18.0	2.0	14.5
Grand Junction	20.5	22.5	2.0	18.0
Casper, Wyo.	18.0	20.0	3.0	13.0
Cheyenne	18.0	20.0	3.0	14.5
Butte, Mont.	22.0	22.0	3.0	19.0
Helena	22.5	24.5	3.0	19.0
Salt Lake, Utah	21.0	23.0	3.5	17.0
Boise, Idaho	23.5	25.5	4.0	19.0
Twin Falls	23.5	25.5	4.0	19.0
Albuq'que, N.M.	21.0	24.0	5.0	17.0

TANK WAGON CHANGES

May 18—Magnolia Petroleum Co. reduced kerosene 1 cent in Fort Worth.

June 1—Standard Oil Co. of New Jersey reduced the gasoline tank wagon and station prices 3 cents in Parkersburg, the station price 3 cents in Norfolk and the tank wagon and station prices 2 cents in Washington.

June 3—Standard Oil Co. of New York reduced the gasoline tank wagon and station prices 2 cents in Boston and 4 cents in Manchester.

New Jersey Company Elects New Directors, Two Are Europeans

NEW YORK, June 7.—Election of J. A. Mowinckel of Genoa, Italy, and H. Reidemann of Berlin Germany, to the directorate of the Standard Oil Co. of New Jersey, marks the first time a resident European has been placed on the board of that company. Mr. Mowinckel is head of the Societe Italo-American Pel Petrolio, and Mr. Reidemann is managing director of Deutsche-Americanische Petroleum Gesellschaft, Italian and German subsidiaries of the Jersey company.

Others added to the New Jersey Standard board, increasing that body from 9 to 16, are W. S. Farish, head of Humble Oil & Refining Co., Christy Payne, in charge of the natural gas business of the New Jersey company, J. H. Senior, president, West India Oil Co.; G. H. Smith, president, International Petroleum Co.; and C. O. Swain, general counsel of the Jersey company.

It is considered significant that of seven new directors all but two represent foreign interests of the company. This is regarded as indicating attachment of greater importance to the Jersey company's operations outside the United States than heretofore. The board as at present constituted will meet at stated intervals and executives representing subsidiary organizations in the United States and abroad will continue to exercise their present duties and will not change their places of residence.

CALIFORNIA MARKET IS CONTINUING WEAK

LOS ANGELES, Calif., June 4.—The California oil market continues weak. Exports of California oils have improved somewhat, but only because of price concessions. Two cargoes of gasoline were reported sold at 5½ cents. It is only possible to move gasoline in this trade at prices around 5½ cents which is obviously not desirable.

While marketers in general are feeling a bit more optimistic, the domestic demand has not improved as expected. While there has been an increase sales are not as large as hoped for. This is most probably due to the cool weather.

The natural gasoline market is still soft. Small quantities have been sold as low as 7½ to 8 cents, but such sales have accounted for a very small volume only. Natural gasoline sold on contract in large quantities is bringing around 10 cents. The demand for this commodity remains weak.

Fuel oil consumption is steadily improving on the Pacific Coast. Figures available for 1926 show that during last year a total of 147,836,095 bbls. of fuel oil, gas oil and heavy crude burned as fuel, were consumed on the Pacific Coast. This is an increase of approximately 30,500,000 bbls., or 27 per cent over 1925 deliveries. During 1926 there was available for this use 150,123,018 bbls., or an increase of 2.6 per cent over 1925. In 1926, consumption was less than 3,000,000 bbls. under production.

KANSAS GEOLOGICAL SOCIETY

L. W. Kesler, district geologist for the Sinclair Oil & Gas Co. at Wichita, Kans., who has charge of that company's geological work in that state, was last week elected president of the Kansas Geological Society, succeeding Marvin Lee, consulting geologist. John Reeves, of the Empire Gas & Fuel Co. was elected vice president, and John F. Garlough, a consulting geologist was elected secretary treasurer.

CRUDE OIL PRICES

(Continued from Page 129)

ing Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES
Joseph Seep Purchasing Agency
(Effective March 7)

Penna Grade Oil in New York Transit Line (New York)	$2.90
Bradford District Oil in National Transit Lines (Pennsylvania)	2.90
Penna Grade Oil in National Transit Lines (Pennsylvania)	2.80
Penna Grade Oil in Southwest Pennsylvania Lines (West Virginia)	2.80
Penna Grade Oil in Eureka Pipe Line lines (Pennsylvania)	2.75
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.60
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) March 16	1.40
Corning 35-cent grade oil in Buckeye Pipe Line Co.'s line (March 17)	1.35
Corning 25-cent grade oil in Buckeye Pipe Line Co.'s lines (March 17)	1.45
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) March 16	1.50
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky)	.95
Keister (Pennsylvania)	1.10

MIDDLE WESTERN STATES
Ohio Oil Co.
(Effective March 14)

Lima	$1.71
Wooster	1.77
Illinois	1.60
Indiana	1.42
Princeton	1.60
Plymouth	1.33
Waterloo (Nov. 17, 1926)	1.35
*Western Kentucky	1.35
**Saginaw, Mich, Berea Sand (May 27)	1.95
**Saginaw, Mich. Saginaw Sand (May 27)	2.05
†Cumberland, Barren, Clinton and Monroe Counties, Kentucky (March 16)	1.50
‡Oil in lines of Stoll Oil Refining Co. in Oil City, Ky. (March 16, 1927)	1.50
†Clay County, Tennessee (November 18)	2.35
§Oil Springs (Canada)	2.18
§Petrola (Canada)	2.11

*Posted by Ohio Oil Co.
†Posted by Paragon Development Co.
‡Posted by Stoll Oil Refining Co.
§Posted by Imperial Oil Co., Ltd.
**Posted by Sun Oil Co.

MEXICO

*Tuxpam light (f.o.b. Mex. ports)	$1.35
†Panuco heavy (f.o.b. Mex. ports)	1.15
Tuxpam (New York)	2.15
Panuco (New York)	1.80

*Plus 32.338c tax. †17.681c tax.

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Sensational Rise in Some Oil Issues

Houston, Vacuum and Chesebrough Manufacturing Advance to New Highs for Year. Market Irregular

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, June 6.—Oil securities were irregular during the past week.

Some sensational advances were recorded in some issues. Houston Oil continued its spectacular rise, reaching 164 against a low for the year of 60¼, a net advance of over 100 points. Vacuum Oil rushed upward to 134. Chesebrough Manufacturing crossed 100 to 105. Texas Pacific Land Trust rose to 30 on a report of negotiations with Humble Oil for development of its land in West Texas. The action of these stocks indicates there are some bright spots on the oil horizon.

Earnings and Inventories

Oil company earnings are affected by price declines in two ways: (1) By the decline in values of sales, and (2) decline in value of stocks on hand.

The reduction in value of sales is revealed in the item of gross earnings in company financial reports, and of course net earnings are reduced by an amount similar to gross. Decline in inventory values is registered under the item of inventory adjustment.

In an industry like oil, price changes are rapid. Therefore, the results obtained in one quarter may be reversed in the following one by a reversed price trend. In the same way, stocks of oil may be adjusted downward in one quarter and upward in the following.

In view of the above, it is apparent that estimates of earnings of oil companies far in advance are bound to be more or less guesswork. Current results are scarcely an augury of what is to come.

June is the last month of the second quarter of the year. Earnings of oil companies for the second quarter will depend upon the course of oil prices during the remainder of this month, as well as on prices during the quarter to date. The outlook for prices for the remainder of June is uncertain. No improvement is looked for unless crude oil production drops off rapidly during the next three weeks.

If no improvement in prices occurs, the report of oil companies for the second quarter may be somewhat less favorable than for the first quarter, in as much as this will mean a further depreciation in inventory values compared with the first quarter, and smaller value of sales due to lower prices. This trend could be reversed by a startling improvement during the remainer of June.

In fixing dividend policies, oil company executives must necessarily estimate in advance what is going to occur with regard to prices. When the outlook is uncertain, undoubtedly a conservative policy is justified. If cash is conserved by passing of a dividend, and the situation turns out not to be as bad as was expected, stockholders can expect to reap the benefit later on.

Taking into account the rapid fluctuation in oil prices, caution is always excusable, with regard to financial policy. The same principle which dictates conservation of cash by suspending dividends in time of depression also dictates paying in prosperous periods smaller dividends than earnings would seem currently to warrant. Many concerns, by following the latter practice, have weathered many economic storms without discontinuing payments.

Standard of Indiana-Pan American

Reports that the Standard Oil Co. of Indiana is planning to absorb practically all of the Pan American Petroleum & Transport stock now owned by it are looked upon as in line with original plans of the Standard company. Operation by Indiana of Pan American would be more economical if the latter were a direct subsidiary than if only a small interest were concerned.

Interest centers in whether Standard will actually seek an exchange of Pan American stock for Standard of Indiana or not. It is believed that ultimately there will be such a proposal, but it is considered unlikely this will take place in the near future.

Under leadership of Standard of Indiana, Pan American is developing into an all-around company with crude oil production, refining and retail marketing facilities.

It is considered in connection with this that a conservative financial policy will be carried out by Pan American and earnings ploughed back into the property so far as possible.

Interest of Standard of Indiana in Pan American Petroleum & Transport is held through Pan American Eastern Corp., which controls the Petroleum & Transport company. Pan American Eastern was formed May 1, 1925, and purchased from E. L. Doheny 501,000 shares of Pan American Petroleum & Transport A shares, which represented control of the 1,000,000 A shares which have all voting power. The price paid is understood to have been $35,000,000, half cash and half notes.

A proportionate share interest of the group making the purchase has never been disclosed. It was stated at the time that the group consisted of Standard of Indiana, Blair & Co., Chase Securities Co. and English interests represented by Lord Inverforth. No public offering was made of Pan American Eastern securities.

The Standard Oil Co. of Indiana placed its representatives on the Pan American Petroleum & Transport directorate and in the management. To all intents and purposes it apparently dominated the managerial control of the company. However, while no official figures have ever been disclosed, Standard Oil's stock interest in Pan American Eastern is not believed to represent anywhere near control in that organization, and it has been stated to be a minor part of the outstanding issues.

Union Tank Car

Union Tank Car Co. is understood to have increased its business considerably as a result of the Seminole situation. The only way to move the oil from that field other than by pipe line is, of course, by rail. Shortage of pipe line and storage facilities has resulted in a heavy rail movement, partly to the Gulf of Mexico. Union Tank Car is supplying cars for practically all of this movement.

Sun Oil

The Sun Oil Co. has notified the New York Stock Exchange that holders of common stock of record May 31, will be offered the right to subscribe at $100 a share to 6 per cent cumulative preferred stock of $100 par value in the ratio of .0429 of a share for each share held. The New York Stock Exchange committee on securities has ruled that transactions in the common stock shall be quoted ex-rights May 31. Rights have been admitted to dealings on a when-issued basis. The right to subscribe expires June 13.

Marland Oil

Directors of the Marland Oil Co. took no action on the quarterly dividend of $1 due at this time. The company has been paying dividends on the $1 quarterly basis since December, 1925, and in each of the two previous quarters paid 75 cents, dividends being resumed in May, 1925. Prior to that date no dividends had been paid from September, 1923.

As of the end of March this year Marland Oil Co. had bank loans of $10,900,000, a gain of about $7,000,000 during the first quarter of the year.

Anglo-American Oil

The balance sheet of the Anglo-American Oil Co. as of December 31, 1926, follows:

Assets

Freehold, land, etc.	£ 594,064
Construction and equipment	2,994,422
Steamships, barges, tugs	1,784,561
Accounts and bills receivable	2,858,968
Loans to assoc. cos.	558,589
Stock of oils, etc	3,683,209
British government securities	346,126
Investment in other cos	2,696,109
Cash	1,104,842
Total	£16,620,890

Liabilities

Capital stock (par £1)	£ 4,007,185
Capital reserve	12,036
Gold notes	1,236,158
Accounts receivable, etc.	6,142,740
Deposits by assoc. cos	187,234
Dividend declared	318,827
Insurance reserve acounts	176,031
Investment reserve	403,146
Reserve	2,000,000
Surplus	2,137,523
Total	£16,620,890

Anglo-American is a Standard Oil marketing unit in Great Britain.

Tide Water Oil

The Tide Water Oil Co. has declared a dividend of 20 cents a share on its common stock, payable June 30, to stockholders of record June 11. This compares with a dividend of 37½ cents paid in the previous quarter. Axtell J. Byles, president, stated that the directors deemed it prudent at this time to conserve the company's cash because of the present conditions in the oil industry and uncertainty as to the time which will be required for their correction.

Pure Oil

The Pure Oil Co. has declared the regular quarterly dividends of $2 on the 8 per cent preferred, $1.50 on the 6 per cent preferred and $1.25 on the 5¼ per cent preferred, all payable July 1 to stockholders of record June 10.

NEW YORK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks—	Par	Clos. Quot. June 6	Clos. Quot. May 28	1927 High	1927 Low	1926 High	1926 Low	1925 High	1925 Low
Amerada Corp.	..	32¼	32⅝	37⅝	30⅜	32⅞	24⅜	..	..
Atlantic Refining, com.	100	114½	112	117⅜	107	128⅜	97	117½	95½
Barnsdall "A"	25	26	26⅜	35½	26⅜	32½	23½	33½	18⅜
California Petroleum, com.	25	24½	24⅞	32⅜	24⅜	38⅛	30⅞	34⅜	23⅝
Houston Oil	100	161	138⅞	164	60¼	75	50⅛	85	59
Independent Oil & Gas	..	19	19⅜	32⅜	19¼	34	20¼	41⅜	13½
Louisiana Oil	10	11⅝	12	18⅛	12⅝	19⅝	12	23⅜	13⅜
Maracaibo	..	*15½	*13½	22⅜	15	27⅜	18⅜	35½	20⅜
Marland	..	37	38⅜	58⅛	37⅛	63⅝	49¼	60⅛	32⅝
Mid-Continent Petroleum	..	31⅜	31¼	39⅜	30⅞	41	25⅜	38	25⅜
National Supply	50	80	80	95⅜	82½	84⅞	55½	71	54⅜
Oil Well Supply	25	40⅜	*34	44⅜	31¼	36	30	38	33⅜
Pan American, B	50	58	58½	65⅞	57⅛	72⅜	56⅛	83⅞	59½
Pan American, Western B	..	*18⅜	21	37⅞	26⅞	46	34	94⅜	37¼
Phillips Petroleum	..	43⅞	44⅜	60¼	41⅛	54⅞	42⅛	47⅛	36¼
Producers & Refiners	50	30⅛	30⅜	32	16¾	26	11	32⅜	12½
Pure Oil, com.	..	26⅛	26⅞	32⅝	26⅜	31	25⅜	33⅜	25½
Royal Dutch, N. Y., sh.	13.40	*50	49½	54½	50	57⅜	49⅜	57⅜	48¼
Shell Transport	10	*45½	*44	49	44½	48⅞	42	49	39⅜
Shell Union, com.	..	27⅝	28	31⅜	26⅞	30⅞	24	28⅜	21⅝
Simms Petroleum	10	16½	16½	22¾	18⅜	28⅝	16½	28½	17¾
Sinclair Consolidated	..	16⅞	17⅛	22⅜	17⅝	24⅞	16⅜	24⅞	17
Skelly Oil	25	27½	27½	37⅜	26⅞	37⅛	27	32½	21¾
Standard of California	25	53½	53⅞	60⅜	52⅝	63½	54	67¼	52½
Standard of New Jersey, com.	25	36⅞	37	41⅜	37	46⅜	37½	47½	38⅜
Standard of New York	25	30½	30½	34⅛	31	47¼	30⅜	48⅜	40
Sun Oil Co.	..	31	30⅜	34⅞	30	41⅝	30⅛	43⅞	38½
The Texas Company	25	48¼	48	58	43⅜	58	48	55	43⅜
Texas Pacific Coal & Oil	10	12⅜	12½	16⅜	13	19½	12⅛	23⅜	11
Tide Water Associated Oil	..	16⅜	16⅝	23½	16½	21	17	..	..
Transcontinental	..	5½	5⅞	6⅛	4⅛	5½	3	5⅝	3½
Union Oil of California	25	43	43½	56½	39⅝	53⅜	37¼	43⅝	33½
Union Tank, com.	100	110¼	*108	112½	95	120⅜	84¼	‡134	118
White Eagle Oil & Refining	..	23½	*23⅜	27½	22	29⅜	25⅛	21⅜	25⅝
Standard Oils									
Anglo-American Oil	£1	*19⅞	19¼	21⅜	18⅜	19⅜	16½	26⅜	17½
Borne Scrymser	25	*51	*50	69	53¼	75	65	‡240	205
Buckeye Pipe Line	50	*57½	57½	45	59½	47⅝	47⅝	72	63½
Chesebrough Manufacturing Co.	25	105	96½	105	76½	81⅜	63	74	98¼
Continental	10	17⅜	17⅜	22⅝	18	25⅞	19¼	31⅛	21⅞
Cumberland Pipe Line	100	*93	*91	137	106	137	102	156	128
Eureka Pipe Line	100	56	*50½	51¼	47	53⅜	43	96	61¼
Galena Signal, com.	100	*7½	*8¾	13½	10¼	32½	9⅞	68½	23½
Humble Oil & Refining Co.	25	56¼	56	62¾	54	99⅝	52	99	42½
Illinois Pipe Line	100	141	*139½	141	123⅜	144	131	154½	124
Imperial Oil	..	43⅜	43½	46	37⅜	39⅜	32½	39¼	27¼
Indiana Pipe Line	50	*70	*67½	69½	61	68	52¼	84	87½
International Petroleum Co.	10	30	30¼	34⅞	30⅛	35¼	28¾	25⅜	22⅜
National Transit Co.	12.50	16⅛	16¾	14	12⅝	20⅝	27¼	25½	16½
New York Transit	100	34	*32½	36	31¼	51½	27¼	70	50
Northern Pipe Line	100	87	84½	79¼	70	80½	64	88	67½
Ohio Oil Co.	25	56¼	57⅛	64¼	57½	67¾	55¾	75¼	60
Penn-Mex Fuel	25	27	20	19	16½	24¼	15	44	19
Prairie Oil & Gas	25	48	47⅜	55½	48¼	60¼	48	65½	45⅞
Prairie Pipe Line	100	163¾	*163½	165½	132	137½	122½	129¾	105
Solar Refining Co.	100	*180	*183	101½	185	212	184½	159	200
South Penn Oil	25	36	35½	41½	35½	50	35	‡197	139
Southwest Pa. Pipe Line	100	*72	*65	62½	55½	56	47½	84	50
Southern Pipe Line	50	*18½	*16½	27¼	15½	27	24	‡103	63
Standard of Indiana	25	67⅞	67½	74¼	66½	10½	61⅝	70⅜	69¼
Standard of Kansas	25	16	16½	20⅞	15⅝	36½	16½	46	30¼
Standard of Kentucky	25	112¾	*113½	122¼	114⅛	134⅜	108	137	114⅜
Standard of Nebraska	25	*45½	*46	49½	46½	51⅜	42	‡270	231
Standard of Ohio, com.	100	74⅜	310	254	335	362	192½	369	338
Swan & Finch, com.	25	*15	16½	16	15	21	18	27	12
Vacuum Oil	25	132½	123	134	95⅛	109⅜	94⅛	109½	80½
Miscellaneous									
Gulf Oil Corp. of Pa.	25	89	*89½	96½	92¼	95	82½	98¼	63½

*Bid, no sales. ‡Old stock. †New stock.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

June 6	59.27	May 2	57.13	Mar. 28	58.51
May 28	58.68	Apr. 25	57.03	Mar. 21	58.03
May 23	57.89	Apr. 18	57.42	Mar. 14	59.26
May 16	58.10	Apr. 11	57.37	Mar. 7	59.34
May 9	58.08	Apr. 4	56.63	Feb. 26	60.83

TEXAS PANHANDLE

(Continued from Page 42)

shot with 90 quarts at 2,728-60 feet and is making 50 bbls.

Prairie Oil & Gas Co.'s No. 65-A Johnson Brothers, Section 22, Block Y, is a 30-bbl. well at 2,885-2,995 feet. Same company's No. 54-A Johnson Brothers, Section 21, Block Y, is making 200 bbls. of oil and 275 bbls. of salt water from 2,920-34 feet. Prairie Oil & Gas Co. and associates' No. 60-A Johnson Brothers, Section 64, Block 46, is pumping 20 bbls. daily. Pure Oil Co.'s No. 5-B Johnson, Section 70, Block 46, was shot with 210 quarts at 2,865-2,931 feet and is swabbing and flowing 550 bbls. daily.

White and associates' No. 1 E. Cockrell, Section 2, Block B-3, had the pay at 2,993-3,035 feet and was shot with 240 quarts at 2,973-3,035 feet. The well is now making 75 bbls. daily and was making 150 bbls. before the shot. Wiles & Keech's No. 1 Smith, Section 5, Block Y, had the pay at 2,734-2,896 feet. The well was shot with 530 quarts at 2,760-2,879 feet and is making 300 bbls. Southwest Oil & Deelopment Co.'s No. 5 Johnson Brothers was shot with 90 quarts at 2,895-2,955 feet and is making 210 bbls.

Moore County

Phillips Petroleum Co.'s No. 2 Special Sneed, Section 1, J. T. Sneed Survey, was a hole full of salt water at 3,100-05 feet and was abandoned.

Roberts County

Gibson Oil Co.'s No. 1 T. S. Jones, Section 109, Block C, is being plugged and abandoned at 4,220 feet.

Wheeler County

Gibson Oil Co.'s No. 2 W. E. Bentley, Section 42, Block 24, is swabbing 50 bbls. daily from granite wash at 2,310-46 feet total depth 2,351 feet.

NEW RADIO STATION

BRECKENRIDGE, Tex., June 6.—Phillips Petroleum Co., Bartlesville, Okla., is building a radio station here for the intracompany communication. It is the third of such stations to be built by that company. One station is located at the home office and another is in operation in the Panhandle area of Texas.

NEW PETROLEUM REGISTER

The 1927 edition of the Petroleum Register, the tenth annual number, of which H. S. Reavis is publisher, has been completed and is ready for distribution. It contains information of companies in various activities of the oil industry with their officers and latest financial statements; this year there has been added a list of obsolete oil companies.

WILDCAT OPERATIONS IN PANHANDLE

(Continued from Page 42)

COLLINGSWORTH COUNTY

Harmon & Deems' No. 1 Wilson (Scott), Sec. 44, Blk. 21.. Location, temporarily abandoned.
Wischkamper's No. 1 fee, C SE Sec. 93, Blk. 16..... Shut down 2,500 ft.

DALLAM COUNTY

James et al's No. 1 fee, Sec. 9, 47½..... Shut down 2,870 ft.
Harry Skelly et al's No. 1 Capitol Synd., Sec. 19, Blk. 17.. Shut down 2,920 ft.
Marland Oil Co. et al's No. 1 Capitol Syndicate, Sec. 36, Blk. 18, Capitol Syndicate land..... Shut down 950 ft.

DEAF SMITH COUNTY

Julian & DeGrace's No. 1 Mrs. R. A. Hindley, Sec. 47, Blk. K-8..... Shut down 520 ft. for casing.
Red Hill Oil Corp.'s No. 1 Barrett, Sec. 93, Blk. K-4..... Shut down 710 ft.

DONLEY COUNTY

A. T. Drilling Co.'s No. 1 F. E. Harington, Sec. 39, Blk. 3-C..... 1,200 ft. water from 3,115-22 ft.; show gas 3,140-60 ft.; dry granite wash 3,260-93 ft.; drilling 3,493 ft.

GRAY COUNTY

Atlantic O. P. Co.'s No. 1 Combs & Worley, NW cor. NE Sec. 39, Blk. 3..... Rig up.
Archer, Blake et al's No. 1 Turneau, Sec. 111, Blk. 2-B.. Spudded and shut down
Amos et al's No. 1 Crews, NW cor. Sec. 9, Blk. 25..... Shut down 1,545 for 8¼-in. casing.
Bay Shore Oil Co.'s No. 1 C. W. Bradford, Sec. 143, Blk. 2-B..... Total depth 2,666 ft.; gas shut in and preparing to drill deeper.
British-Amer. O. Co.'s No. 1 J. E. Meers, Sec. 107, Blk. 3.. 58,000,000 ft. gas and slight spray oil; shut down 3,190 ft.; will possibly complete as gasser.
British American Oil Co.'s No. 1 J. M. Patton, Sec. 61, Blk. B-2..... Rigged and shut down; temporarily abandoned.
Cole O. & G. Co.'s (was Magdalene Oil Co.'s) No. 1 J. E. Williams, Sec. 17, Blk. 1..... Shut down at 3,775 ft.
Donley Gray Oil Co.'s No. 1 J. W. Gordon ..... Building rig.
Jack Doyle's No. 1 D. W. Osborne, SE cor. Sec. 109, Blk. 3..... Rig.
Edwards et al's No. 1 E. J. Case, NE cor. Sec. 182, Blk. B-2, H. & G. N. Sur..... Spudded and shut down.
Empire Gas & Fuel Co.'s No. 1 J. E. Cubine, NE cor. NW Sec. 36, Blk. 25..... Underreaming 1,700 ft. for 10-in. casing.
Empire G. & F. Co.'s No. 1 J. A. Hood, SW cor. SE. Sec. 33, Blk. 3..... Spudding.
Empire G. & F. Co.'s No. 1 J. M. Saunders, SW cor. SE. Sec. 4, Blk. 3..... Drilling 347 ft.
Empire G. & F. Co.'s No. 1 J. F. Meers, NE cor. SE Sec. 107, Blk 3..... 2,000 ft. oil in hole from lime and granite wash at 3,116 ft.
Empire G. & F. Co.'s No. 1 J. J. Wall, Sec. 161, Blk. 3.... Total depth 2,930 ft.; shut down; 43,000,000 ft. gas; closed in; to drill deeper.
Empire G. & F. Co.'s No. 1 Webb, SW cor. Sec. 59, Blk. 25, elev. 2,534 ft..... Drilling deeper at 2,930 ft.
Gladis Gray's No. 1 Colebank-Morse (was Foster et al's No. 1 G. Cutebank), SW cor. NE Sec. 65, Blk. 25.... 2,905 ft. total depth, plugged back to 2,803 ft., shot with 160 quarts at 2,430 to 2,510 ft.; 1,200 ft. oil in hole.
Gulf Production Co.'s No. 1 Bowers, Sec. 89, Blk. B-2... Drilling 110 ft.
Gray County Pet. Co.'s No. 1 Herndon, Sec. 147, Blk. 3.. Underreaming for 10-in. at 2,590 ft.
John G. Lane's No. 1 A. Chapman, Sec. 19, Blk. A, C. & H. B. Sur..... Total depth 3,300 ft.; 5 3/16-in. casing parted; shut down.
Nelson Holding Co.'s No. 1 W. P. Dial, C NE SW NW, Sec. 48, Blk. 25..... Building rig.
Neudigate et al's No. 1 A. Chapman, NE cor. E ½ SE Sec. 52, Blk. 25..... Running 10-in. 1,040 ft.
Pampa Oil Co.'s No. 1 W. R. Campbell, Sec. 90, Blk. 3... Drilling 770 ft.
Pampa Pet. Co.'s No. 1 Mary Leopold, Sec. 141, Blk. 3... Water from 3,320-60 ft.; drilling 3,550 ft.
Petroleum Explor. Co.'s No. 1 L. C. McConnell, SE cor. NW, Sec. 174, Blk. 3..... Rig.
Purple Sage Oil Co.'s No. 1 Johnson, Sec. 8, Rockwell County school land..... Show oil 2,685 ft., water 2,725-70 ft., sidetracking bit.
Riley & Heck's No. 1 Mrs. Hopkins, Sec. 66, Blk. 2-B.... Show of oil 3,020 ft.; dropped 6-in. casing in hole, fishing.
Rensoul Pet. Co.'s (was Salisbury & Reynold's) No. 1 M. Huselby, C SE NE NE Sec. 55, Blk. 25, H. & G. N..... Flowing 30 bbls. daily from granite wash topped at 2,407 ft., fishing for bit.
Roxana Petroleum Corp.'s No. 1 Combs & Worley, NE cor. NW, Sec. 39, Blk. 3..... Rig.
Roxana Petroleum Corp.'s No. 1 R. S. McConnell, NE cor. E half SW, Sec. 174, Blk. 3..... Rig.
C. B. Shafer's No. 1 G. Cole, SE cor. W ½ SW Sec. 105, Blk. 3..... Fishing for pipe 3,313 ft.; 2,000 oil in hole.
Sullivan et al's No. 1 fee, NW cor. E half SW, Sec. 1, Blk. 1, A. C. H. & B. Sur..... Location.
The Texas Company's No. 1 J. B. Barrett, NE cor. NW NW Sec. 130, Blk. 3..... Set 6-in. 3,070 ft.
J. Williams et al's No. 1 C. W. Bradford, Sec. 123, Blk. B-2..... Rig temporarily abandoned.

HALL COUNTY

Seifert and others' No. 1 Owens, C NE Sec. 179, Blk. S-5, Dennison & Pacific Sur..... Spudded and shut down.

HARTLEY COUNTY

Amerada Pet. Corp.'s No. 1 Frances Farwell, Sec. 27, Blk. 16..... Drilling 3,610 ft.
Deep Rock Oil Co.'s No. 1 Lyman & Balfour, Sec. 9, Blk. 2..... Cleaning out at 2,483 ft.
Eslick et al's No. 1 J. B. Irving, Sec. 13, Blk. 13..... Drilling 3,126 ft.
J. E. McKanna's No. 1 Frances Farwell, Sec. 30, Blk. 22.. Drilling 2,240 ft.
J. E. McKanna's No. 1 J. M. Shelton estate, Sec. 29, Blk. 202..... Shut down 3,595 ft., casing trouble, rig blown down; rebuilding rig.

HEMPHILL COUNTY

Hoover et al's No. 1 Schaller estate, Sec. 4..... Spudded and shut down.
Hoover et al's No. 1 fee, J. S. Hood Sur..... Straightreaming 4,400 ft. for 5 3-16 in. pipe.

HUTCHINSON COUNTY

Amarillo Oil Co.'s No. 1 Ida Ingerton ..... Cemented 10-in. 1,902 ft.; waiting on cable tools.
Anderson & Pritchard's No. 2 William Yake, SW cor. NW, Sec. 1, Blk. J, H. & G. N. Sur. (one-half mile west of No. 1 ..... Rigged.
Bleam et al's No. 1 Cockrell, Sec. 3, Blk. 23 ..... Drilling 2,210 ft.
Berryman Oil Co.'s No. 1 Sanford, Sec. 83, Blk. 46, H. & T. C. Sur..... Fishing at 2,855 ft. for bailer.
Conklin et al's No. 1 Johnson, Sec. 1, Blk. XO3, H. & O. B. Sur..... Shut down 600 ft. for 12-in.
Great Plains Oil Co.'s No. 1 Lee Bivins, Sec. 13, Blk. Y2, T. T. R. R. Sur..... Show gas 2,325 ft., shut down.
Great Plains Oil Co.'s No. 1 Kingland, Sec. 4, Blk. Y ... Drilling 1,510 ft.
Golden Eagle Oil Corp.'s No. 1 J. Q. Bost, Sec. 6, Blk. Y-2 ..... Derrick.
McMan Oil & Gas Co.'s No. 1 Albert Yake ..... Rig.
Marland Oil Co.'s No. 1 Carver, William Heath Sur. ..... Drilling 3,629 ft.
Panfield Oil Co.'s No. 1 Luginbyhl Brothers, Sec. 50, Blk. M-23 ..... Shut down 1,200 ft.
Pole Cat Oil Co.'s No. 1 W. B. Haile, Sec. 24, Blk. M-21... Spudding.
Phillips Pet. Co.'s No. 1 Yake, Sec. 36, Blk. 46..... Shut down, 2,730 ft. for cable tools.
Prairie Oil & Gas Co.'s No. 1 J. M. Sanford, SW cor. N half Sec. 85, Blk. 46 ..... Drilling 1,530 ft.
Prairie Oil & Gas Co. and Vacuum Oil Co.'s No. 1 Cal Merchant ..... Drowning out 75,000,000 ft. gas at 2,252 to 2,470 ft.; total depth 2,550 ft.
Skyrocket Oil Co.'s No. 1 Mrs. R. A. Jameson ..... Fishing 2,512 ft.
Sweeney et al's No. 1 Johnson, Sec. 38, Blk. Y ..... Shut down 1,780 ft.
U. S. Oil Corp.'s No. 1 Johnson, Sec. 35, Blk. Y ..... Shut down 800 ft. for casing.
Vitek Oil Co.'s No. 1 W. F. Allen, Jose Rodriguez Sur.... Shut down 180 ft.

LIPSCOMB COUNTY

Camp Creek Oil Co.'s No. 1 Mrs. H. D. May, Sec. 612, Blk. 43 ..... Shut down 600 ft.
McCorkle's No. 1 A. Burton, NE cor. SW SE, Sec. 104, Blk. 43, H. & T. C. Sur..... Fishing 3,760 ft.
Smith, Kinsley & Ruby's No. 1 C. W. Jones, NE cor. SW Sec. 100, Blk. 43 ..... Drilling 2,560 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 2 Terry Thompson, Sec. 19, Blk. 44.. Making 34,000,000 ft. gas; drilling up sand line 3,300 ft.
Douglas Oil Co.'s No. 1 H. M. Beauchamp, Sec. 112, Blk. 44 ..... Drilling 3,110 ft.; 6,000,000 ft. of gas at 3,105 ft.
Marland Oil Co.'s No. 1 J. T. Sneed, Jr., Sec. 25, Blk. 1... One-half bailer water per hour at 3,152-3,202 ft.; shut down 3,355 ft.
Morton & Co.'s No. 1 Reeder, Sec. 191, Blk. 3-T..... Underreaming at 3,225 ft.
Moore County Oil Co.'s No. 1 Sneed, Sec. 30, Blk. 6-T.... Drilling 2,212 ft.
Shadler Brothers' No. 1 John Lowery, Sec. 237, Blk. 44... Drilling at 1,401 ft.
Skelly Oil Co.'s No. 1 Armstrong & Byrd..... Drilling at 1,395 ft.
Prairie and Shamrock's No. 2 Gober, Sec. 16, Blk. M-21.. Rig.

OCHILTREE COUNTY

W. G. Burton's No. 1 Stickler, Sec. 579, Blk. 43..... Shut down 3,910 ft.
Hamilton et al's No. 1 R. E. Wamble, Sec. 144, Blk. 43.... Shut down 250 ft.
McCorkle Pipe Line Co.'s No. 1 R. H. Moore, Sec. 471, Blk. 43 ..... Shut down 1,600 ft.
McCorkle's No. 1 Weinett, Sec. 674, Blk. 43..... Drilling 300 ft.
Standard Dev. Co.'s No. 1 Bowden, Sec. 923, Blk. 43..... Shut down 900 ft., (corrected depth).

OLDHAM COUNTY

Prairie O. & G. Co.'s No. 1 Landergin, SE cor. NE SW Sec. 46, League 310, Capital land..... 8-in. set 3,351 ft.; drilling 3,560 ft.

PARMER COUNTY

Humble O. & R. Co.'s No. 1 Farwell, elev. 4,005 ft..... Set 8-in. 2,988 ft. on top of limestone, drilling 3,235 ft.

POTTER COUNTY

Del Rio Oil Co.'s No. 1 River Bed, Sec. 106, Blk. 46, H. & T. C. Sur..... New location, rig.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Mrs. H. Ledrick & Sons, Sec. 7, Blk. 5-A ..... Show of gas 4,990 ft.; 1,200 ft. of water in hole.
Dunbar's No. 1 H. A. Gill, Sec. 127, Blk. M-2..... Cellar; temporarily abandoned.
Gibson Oil Corp.'s No. 1 T. S. Jones..... Salt water 4,143-60 ft.; total depth 4,220 ft.; pulling pipe to plug.
Murphy et al's No. 1 Gill, Sec. 31, Blk. M-2..... Shut down 650 ft.
Charles Page et al's No. 1 Hamilton, Tract 2, Clay County school land ..... Shut down 440 ft.
C. C. Wilson, No. 1 A. H. Tandy, NE cor. Sec. 182, Blk. 42, H. & T. C. Sur..... Rigged up.

SHERMAN COUNTY

Gibson Oil Co.'s No. 1 Bivins, Sec. 35, Blk 3-B..... Drilling 1,380 ft.
Hagy & Harrington's No. 1 S. F. Flores, C SW Sec. 64, Blk. 3-T, T. & N. O. Sur..... Drill stem stuck at 250 ft.
Phillips Pet. Co.'s No. 1 Price & Fuqua, C NE Sec. 33, Blk. 2-B, G. H. & H. Sur..... Rigged.
Whitehead et al's No. 1 Lee Bivins, C SW Sec. 36, Blk. 2, G. H. & H. Sur..... Location.

SWISHER COUNTY

R. H. Miller's No. 1 Todd..... Location temporarily abandoned.

WHEELER COUNTY

American Ref. Co.'s No. 1 E. E. Carlton, Sec. 29, Blk. 13 8,000,000 ft.; gas, show of oil 2,027 ft.; total depth 2,255 ft.; plugging back to shoot.
Angus et al's No. 1 G. A. Morgan, SW cor. SW NE Sec. 93, Blk. 17..... Making 24,000,000 ft. of gas at 1,800-95.; shut down 1,895 ft.
Angus et al's No. 1 Vermillion, SW cor. NW SW, Sec. 80, Blk. 17, H. & G. N. Sur..... Building rig.
Boyles & Johnson's No. 1 S. L. Lewis, Sec. 40, Blk. 24... Fishing for bit 2,400 ft.
Foster et al's No. 1 S. H. McDonald, SE cor. NW SW, J. N. Lindsay Sur..... Spudded and shut down.
Marland Oil Co.'s No. 2 W. E. Bentley..... Show gas 2,205 ft.; shut down by agreement.
J. J. Rook's No. 1 M. Mertel, SE NE Sec. 4, Blk. 24, H. & G. N. Sur..... Drilling 1,885 ft., making 3,000,000 ft. gas at 1,880-85 ft.
J. J. Rook Co.'s No. 1 T. C. Jones, Sec. 1, Blk. 34 ..... Fishing casing 1,300 ft.
J. J. Rook's No. 1 C. W. Porter, SW cor. NW Sec. 41, Blk. 24 ..... Shut down 2,300 ft. by agreement.
Wheeler O. & G. Co.'s No. 1 P. J. Sorenson, Sec. 53, Blk. A-4 ..... Spudded and shut down.
Smith, Brady et al's No. 1 P. J. Sorenson, Sec. 53, Blk. 4-A ..... Shut down 2,112 ft. for orders.
E. L. Woodley, Jr., No. 1 Woodley, Sr., Sec. 13, Blk. 5-A.. Show of oil 2,227 ft.; shut down 2,349 ft.
Watchorn O. & G. Co.'s No. 1 F. E. Shelton, C NE NE Sec. 22, Blk. 24..... First gas 1,893-97 ft.; 40,000,000 ft. gas 1,905-26 ft.; 50,000,000 ft. gas 1,930-52 ft.
The Texas Company's No. 1 B. P. Sewell ..... Drilling 310 ft.
Tidal Oil Co.'s No. 1 W. E. Bentley ..... Preparing to run 8¼-in. pipe at 1,500 ft.

EASTERN GASOLINE MARKETS ARE MIXED

(Continued from Page 124)

Coast ports to $1.65, and Diesel oil was cut 10 cents to $2.20.

The gas oil market was also reduced, Bayonne tank car prices being cut one-fourth of a cent to 5½.

Lubricating Oil

The lubricating oil market continues firm. Prices are unchanged. The industrial demand, however, is said to be below expectations, and buyers are seeking concessions in prices in this trade.

Paraffin Wax

Paraffin wax continues weak, due to smaller exports and continued oversupply. Prices are still on the bottom, with no immediate expectations of any improvement. Refined wax of 120-122 a.m.p. is available at 3⅞ cents a pound.

Petrolatum

The petrolatum market is dull and prices show no improvement. Local jobbers say the cause of this is that foreign buyers have been getting supplies elsewhere, and the American trade has suffered.

Export Market

The oil export movement at New York was restricted during the past week. No bulk shipments whatever were reported following the abnormally heavy movement of the preceding week. Shipments of gasoline and kerosene in cases were fairly heavy, however. In all other departments the export market was dull.

The following table shows principal exports of petroleum and petroleum products from New York during the last three weeks (all figures in gallons unless otherwise noted:)

	Week Ended		
Gasoline:	June 1	May 25	May 18
Bulk		7,085,804	3,357,312
Cases	1,518,750	391,990	388,000
Kerosene:			
Bulk		9,320,590	1,857,240
Cases	1,433,840	2,434,200	1,432,689
Gas oil:			
Bulk		1,114,344	.....
Lubricating oil:			
Bulk		2,633,877	1,491,327
Barrels	404,300	1,157,950	1,446,450
Cases	195,540	93,340	171,100
Lubricating grease:			
Barrels (lbs.)		306,000	475,500
Paraffin wax:			
Bags (lbs.)	640,640	1,405,140	.....
Barrels (lbs.)	181,450	1,758,925	681,625
Petroleum asphalt:			
Barrels (tons)	200	804	631

The foregoing figures include shipments of 500 bbls, 1,000 cases, or over.

Tanker Market

The oil tanker market is fairly active. Rates show a substantial decline from the recent high markets, and in some quarters it is believed that idle tonnage is increasing. This may be due in a part to a smaller California movement, although there have been some recent additional fixtures in that trade.

New fixtures include the following:

Tanker Tracy Brothers, 70,000 bbls. crude oil, June loading, Gulf to Providence, at 34 cents. (This trade was bringing 36 cents last week.)

Tanker Gobeo, 4,600 tons gas oil, June-July loading, Gulf to United Kingdom-Continent, 36s.

Tanker Diplomat, gasoline, Gulf to Mediterranean, late June loading, 41s. 6d. per ton.

Tanker Agwisun, 10,600 tons, June loading, Gulf to north of Hatteras, 34 cents.

Tanker Aragaz, 7,000 tons net, gasoline and kerosene, Gulf to Scandinavia, 37s. 6d., June loading.

Oil Receipts

Imports of oil at Atlantic Coast ports reached the highest figure of the year last week, when they averaged 200,000 bbls. a day. Of this average, Mexico accounted for 131,000 bbls. and South America 69,000 bbls. The heavy imports from Mexico are ascribed to the policy of withdrawing oil stored in tanks in that country.

Total receipts by water at Atlantic ports of crude and refined oil for the week ended June 1 were 4,006,000 bbls., of which imports amounted to 1,403,000 bbls., receipts from American Gulf ports 2,531,000 bbls. and from Pacific Coast ports 72,000 bbls. The latter figures is the smallest in many months, the average being only 10,000 bbls. a day. In some quarters continued small receipts from California may be expected due to falling production in the West and increasing consumption.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports for the last three weeks; also monthly record for the last 12 months (figures in barrels:)

	Week Ended		
	June1	May 25	May 18
Gulf Coast	362,000	271,000	313,000
Pacific Coast	10,000	51,000	96,000
Mexico	131.00	53,000	61,000
South America	69,000	44,000	51,000
Total	572,000	419,000	521,000

Daily Averages by Months					
1927:	Gulf	Pacific	Mex.	S. Am.	Total
April	388,000	93,000	69,000	61,000	611,000
Mar.	345,000	103,000	36,000	81,000	565,000
Feb.	379,000	89,000	40,000	48,000	556,000
Jan.	362,000	73,000	49,000	61,000	545,000
1926:					
Dec.	363,000	57,000	49,000	61,000	530,000
Nov.	335,000	62,000	56,000	40,000	493,000
Oct.	270,000	71,000	61,000	43,000	445,000
Sept.	299,000	98,000	63,000	58,000	518,000
Aug.	320,000	61,000	71,000	46,000	498,000
July	360,000	66,000	115,000	36,000	577,000
June	396,000	104,000	117,000	18,000	635,000
May	318,000	66,000	114,000	25,000	523,000

The foregoing figures are based on the carrying capacity of incoming oil-laden tankers.

QUIET SPOT MARKET IN THE CHICAGO AREA

(Continued from Page 124)

ers. The quotations are unchanged but there is a firmer feeling regarding the distillate with a gravity above 37 degrees providing the flash is below 180 degrees at least and the cold test equally low.

Gas Oil Steady

Gas oil is steadily held as a whole, although there have been occasional sales at something less than the previous asking price. One refiner that was disappointed in securing the completion of some extra storage released at 2¾ cents a number of cars of recycled gas oil for which the asking price had been 2⅞ cents, but generally there was a firm feeling. One reason is that some refiners state that at a price of 7 cents for Motor grade gasoline they could operate their cracking units and might do so if the demand for gasoline improved. There was an inquiry for 1,000,000 gallons of gas oil but the price named was 2½ cents, so it was looked upon as a test of the market. There has been little large buying. One of the local distributors reported that he had bought a few cars of 34-36 gas oil with a better than 180 flash at 2¾ cents the Group, but this came from the refiner who had been disappointed in regard to extra storage. Some contracts have been made with distributors over next season and the terms of some are very favorable. Some of these contracts are at the market with a low of 3 cents and a maximum of 4 cents. The refiner who made them says he is through making these contracts as the maximum price is too low. Generally preparations are under way for the coming season, contracts are being made and some oil purchased for storage by distributors who in turn are busy signing up their consumer customers for next winter. The gas companies have not been active buyers. Some of the purchasing agents have expressed their willingness to buy at 2½ cents which price is below sellers' views, at least their expressed views.

Fuel Oil Unchanged

Fuel oil is unchanged as to the lighter gravities while the heavier gravities make a showing of slightly more strength. There is really very little change in the situation. Buyers are very slow to place orders for any large quantities. One of the large steel companies was reported to have made a contract for one year but the purchasing department of this company informed inquirers that it had not made a new contract stating that the present contract ran until July 1 and that it had considerable oil in storage.

The Smackover fuel oil market is very quiet. The lower price at which refinery fuel oil can be had has turned a good deal of the demand away from the Smackover product. Field prices are very steadily held but it is believed there must be accumulations of oil as the pipe lines out of the field have not been functioning.

Lubs in Demand

Lubricating oils are still in demand but the great complaint continues of severe competition and much cutting of prices. Some recent offers to large buyers of lubricants for motor use have rather surprised other sellers from the fact that the contracts were so one-sided in favor of the buyer. One representative of a large refining organization said that the present price lists simply represented a trading basis and that there were some smart traders buying oils. Those best satisfied with conditions are those who handle a high-grade product and maintain quality and prices. There is a good demand for high-grade, reliable lubricating oils but it takes time to build up a reputation for quality and too often it is sacrificed for some tempting order.

Tank Wagon Situation

Regarding tank wagon prices over the territory, a well-informed oil man said he could see little if any improvement as the result of the decline in prices. In the Twin Cities conditions are said to be some better but the price has been drastically reduced, the present tank wagon being 15 cents with a 2-cent state tax included. The freight from Group 3 is stated to be 2.82 cents per gallon. A local operator in these cities reported that before the recent special reduction there were 58 price cutters but since there were about 20, most of them in a special district. This is some improvement but even 20 price-cutting dealers in a couple of large cities are too many. The present gross margin of profit at the Twin Cities would be 3.43 cents per gallon, but there are the quantity discounts to be deducted and these should amount to a cent from this profit. There are scores of other places where the price-cutting wars are reducing the prices and the profits materially. It would seem that every dealer large and small was trying to keep up his gallonage and paying no attention to the profits of the business. It is an old and true saying that "It is not the dollars that pass over the counter but the pennies that stick in the till that count."

ROCKY MOUNTAIN AREA

(Continued from Page 57)

land Oil Co. has an airplane service for its officials in order to have the officers reach distant points.

The Homestake Exploration Co. drilled in a fine producer on Section 36-35-2 in the Sunburst Field, finding the Ellis sand at 1,320 feet. This company also found a gasser good for 2,000,000 feet at 1,382 feet on Section 23-35-2 in the Ellis sand.

The Ogden Kevin Oil Co. on Section 20-35-1 made 150 bbls. the first day from the Ellis sand at 1,472 feet.

The Dakota Montana Oil Co. brought in two dry hole on Section 7-34-1.

In eastern Montana, Dawson County, the Montana Dakota Power Co. completed a gasser in the development on the Baker-Glendive structure, and the well is estimated at 7,000,000 feet.

The trial of the gast lift being made in the central part of the Sunburst Field by the Ferdig Oil Co. is now an assured success. The gas lift has increased production in the Ferdig wells by nearly 500 bbls. of oil daily, while it has also shown a considerable decrease in the amount of water coming from the wells. It appears that the volume of fluid coming from the wells is practically the same as before the gas lift was installed, but the increase of oil is due to the oil taking the place of water in the discharge from the wells.

The pig gas line, 72 miles in length, being laid by the Midwest Refining Co. and the Wyoming Gas Co., is about half completed, and the expectations are that the line will be ready for the gas about the middle of July. Rains and snows have interfered with the construction work and so far the progress has been quite slow. More rain has fallen this spring in the Big Horn Basin than for many years, and the streams and rivers are up all over the State. Much snow still lies in the mountains.

The California Petroleum Co. has leased a tract at Opal, on the Oregon Short Line Railroad, near Kemmerer, Wyo., to serve as a warehouse site for the company's operations in the LaBarge Field. It is expected this means that the proposed pipe line from the LaBarge Field to be laid by the California Petroleum Co. will have its terminus at Opal.

A definite effort to have the Government establish an air mail line from Cheyenne to Billings is being promoted by men interested in aviation in Wyoming and Montana. Prominent air officials of the Army will speak at meetings to be held at Casper, Sheridan and Billings.

Development Near Cody

M. Guiterman, a well-known oil operator of Wyoming, drilled two wells across the Shoshone River from Cody, Wyo., last year and found production along a fault plane at about 1,200 feet. The work was shut down last winter, but a deal has been arranged between Mr. Guiterman and the Ohio Oil Co., by which the Ohio Oil Co. has purchased the wells and leases and will develop the property. The crude comes from the shale and is a good grade of green oil. This operation is located near the proposed loading rack where the new line from the Oregon Basin Field will reach the Burlington railroad at Cody.

The North & South Railroad from Casper to the Salt Creek Field, originally intended to make a junction with the Chicago, Milwaukee & St. Paul Railroad in Montana, at Miles City, is reported having been taken over by an eastern syndicate and will be completed as a connecting link between the northwest part of Colorado and Miles City, Montana, thus giving a north and south traffic lane through Central Wyoming.

Such a road would be of great help to the oil operators and save large sums now spent for truck haulage. One link in the proposed road has been optioned, the Saratoga & Encampment Railroad, and another link from Buffalo to a junction with the Burlington main line in northern Wyoming is being negotiated for.

Runs From the Fields

Salt Creek	45,600
Teapot	1,280
Big Muddy	2,830
Grass Creek	2,390
Elk Basin	860
Greybull	15
Rock River	2,820
Rex Lake	150
Lance Creek	540
LaBarge	60
Poison Spider	400
Osage	370
Hamilton Dome	960
Mule Creek	1,300
Lander	60
Byron	80
Lost Soldier	1,800
Ferris	20
Simpson Ridge	90
Cat Creek	2,300
Lake Basin	190
Sunburst	11,200
Iles	465
Walden	no runs
Florence	915
Moffat	1,980
Fort Collins	7,045
Tow Creek	995
Boulder	25
Rangeley	100
Rattlesnake	1,430
Table Mesa	no runs
Hogback	540
Artesia	1,700
Total	90,510

PERFECT NEW WAX AS BEESWAX SUBSTITUTE

(Continued from Page 127)

the wax sheets in this milling process. While the bees will accept smooth sheets of wax, the little workers then build large numbers of drone cells and this is objectionable from the beekeeper's viewpoint; so the milled sheets with the cell bases pressed on same are preferred to the smooth sheet of wax.

The wax sheets are fastened in wooden frames by the beekeeper and when placed in the hives the bees draw out the wax into the well-known honeycomb. Many attempts have been made to manufacture the entire comb by mechanical means, but they have been unsuccessful.

Use of Mineral Wax

During the summer of 1926 a number of experiments were carried on over the country in various apiaries to determine whether the new wax would furnish a substitute for pure beeswax foundation as used in the hives. These experiments are now being carried on in some of the southern states and will continue during the coming summer.

In these experiments the new mineral

wax was formed into sheets and cut to size to fit the wooden frames of the beehives. At first smooth sheets were used to determine whether or not the bees would accept the substitute wax. It was found that if the mineral wax was placed in the hives at a time when the honey flow was on during the summer and the bees were busy bringing it in, the little workers would accept the substitute beeswax without any trouble, but an attempt to place the substitute wax in the hives during a dearth of honey resulted disastrously. For example, after placing the new wax and frames in a hive one evening, the substitute wax was found the next morning all torn to bits and piled just off the alighting board in front of the hive. This was taken as evidence that the little workers did not want the substitute wax at that time.

A particularly strong hive was formed by killing the queen bee in one hive and then superimposing this hive upon another already filled with bees. In this way a very strong colony was obtained and experiments carried on with this particular hive showed conclusively that the bees would accept the substitute wax if sheets of same were given them during a honey flow, and the bees would draw out the foundation as quickly as possible to receive the stores coming in from the fields. However, when the long months of winter emptied these stores it was questioned whether the bees would retain the combs built with substitute wax, or tear them to pieces; this will be determined within the next three months. Bees will sometimes tear the regular beeswax foundation to pieces in the winter months or when they run short of stores.

Advantages of Wax

From the beekeeper's point of view the new wax would be a very welcome addition to the apiary. Its melting point is higher than regular beeswax and during extremely hot weather the beekeeper suffers considerable loss from melting combs built with pure beeswax; with the new mineral wax this danger is eumінated entirely.

The new wax can be sheeted and rolled the same as regular beeswax but is somewhat tougher which makes it better from the beekeeper's standpoint in as much as pure beeswax combs are apt to sag.

It is thought that the new wax carries antiseptic properties which make the hive immune to foul brood, a disease that is a bugbear to every beekeeper in the country; however, this is only a theory as it has not been tested except in a minor way, and, therefore, nothing conclusive can be said of it at present. It has been proved that beeswax is septic, whereas mineral wax is not.

During the coming season the new wax will be tried out by large and small beekeepers from Maine to California and from Canada to the Gulf. The first samples of this wax sent out by the Standard Oil Co. of Indiana were without odor of any kind, but the wax can at the present time be manufactured with an odor very similar to that of beeswax.

CALIFORNIA POSITION IN CRUDE SITUATION

(Continued from Page 32)

obtained before the recent shut down? That question is not an easy one to answer. Even though we can materially strengthen our own position by shutting in production and stopping development, our fate is so interwoven with that of the Mid-Continent that we will have to look eastward before we can know what the outcome will be here. In the Mid-Continent no one seems to know just what will happen either. The Seminole Field alone is producing 350,000 bbls. a day, with every tendency toward an increase rather than a decline. Several wildcat wells have made discoveries that portend other large fields, and are held in only until such time as a decline in the Seminole Field will admit their opening up.

Stabilization Needed

That there is a great need for oil men to get together on a constructive policy is apparent to every one familiar with the situation. Nothing is gained over a long period by cycles of alternate top and low prices for oil, when we might easily be enjoying an uninterrupted era of consistent price so gauged as to guarantee a reasonable profit to all. This constant whipsawing up and down is expensive in many ways. Wells are shut down, wells are started up again. Refineries, pipe lines and marketing facilities are run to full capacity and then shut down; started up again for a year or so and then shut down again. As a result men are thrown out of employment. There is a constant reorganization of personnel, first up and then down. All this is expensive business. Taking up and letting out slack increases overhead amazingly.

One reason, perhaps the outstanding one, for overproduction in California is the fact that the landowner has held the whip hand on the producer. The lease game has been a land owner's or seller's market for several years. He has been able to dictate terms to lessees both as to his revenue and the drilling requirements. Who is to blame for this? Unquestionably, the producer. Every new field in prospect is believed to be the last one, and although oil has been plentiful there is always the angle that the big producer must strengthen his future position by more reserves, and the little producer wants immediate returns. So with each new field there is a stampede for land and when it is a town lot proposition, competition for land and production reaches an absurd degree of struggle, with overproduction and rapid decline the immediate and inevitable result.

Antitrust Laws

As to a remedy, that is a knotty problem, especially in view of the legal phase of the question, wherein Federal regulation prohibits such an amalgamation of interests that could be construed as combination in restraint of trade. The present laws are a result of that trust-busting era of 15 or 20 years ago when Big Business was continuously on the grill for collusion, and the pharse "combination in restraint of trade" was the favorite slogan of the reformer and the demagogue. That these laws which were the outgrowth of that era were beneficial, there is no question. Big Business was getting arrogant and there was danger of a dollar despotism that needed to be curbed. However, those laws have served their purpose and the pendlum seems to be on the back swing. More and more it is becoming evident in the oil business that if oil is to be conserved there must be regulations permitting producers to combine so that there may be developed a unified policy of oil production. Whether or not this can be done without endangering monopoly is for the future to work out.

Unit Plan of Operation

It is reported that at the recent meeting of Walter Teagle and other oil men with the United States Conservation Board that one concrete suggestion was advanced by these gentlemen. The plan, which is a phase of the scheme originally advanced by Henry L. Doherty, provides for a unit operation of an oil field. This means that the land owners and the lessees must harmonize their interests so that the control of production will be by a single agency representing both sides of the question. The practical effect of this innovation will provide for the extraction of oil as needed and will do away with the present hit and miss policy which permits the numerous land owners to satisfy their eagerness to get the oil out of the ground immediately, causing overproduction and a resultant fluctuation in price. If this plan can be effected surplus oil will be cheaply stored in the ground as nature has provided for it, instead of bringing it to the surface and putting it into expensive storage where it is subject to evaporation and other losses and the caprice of markets.

Just now in California many of the large companies are shutting in their production. To the 55,000 bbls. that have been shut in for some years there has been added another 33,000 bbls. So that the shut in now amounts to approximately 88,000 bbls., of which 25,000 is light oil, and California's daily production will be approximately 628,000 bbls. per day.

A short time ago it appeared necessary to adopt an even more drastic shut-in policy than this one, and it seemed likely that 100,000 bbls. per day would be the total figure necessary to curb the overproduction that seemed imminent at our new town lot field at Alamitos Heights. The first wells brought in there and at Seal Beach were from 3,000 to 4,000 bbls. per day, with a correspondingly immense flow of gas, which indicated that another runaway field was looming up. With this in mind the peak of the field was estimated at from 100,000 to 150,000 bbls. per day. However, the decline has already set in as indicated by lower initial flow and a rapid falling off of older production. So that the peak in Alamitos and Seal Beach combined, in the thin zone from which production is now being secured, will doubtless not exceed 60,000 bbls. per day, and the total future production will not be seriously menaced.

In any event the oil shut in will materially improve our situation.

NEW RATE GROUP FOR OKLAHOMA AND KANSAS

(Continued from Page 126)

petroleum products and that in 1926 the value of this interest alone amounted to $31,000,000."

"I would be the last one to argue," said Mr. Walker, "that investments deserve protection merely because they have been made. But the geographical position of this interest in Oklahoma, entitles these refineries to as low, if not a lower basis of rates, than is given Kansas. We want equal opportunity for our investments with those made in Kansas. It is a fact that refinery interests in Oklahoma and Kansas have not kept pace with those of other states. The refinery capacity increase since 1919 has been inconsequential. The reason for increase in refinery capacity elsewhere comes from pipe line companies which are the controlling factors as to the measure of rates in this case."

C. M. Reed, appearing for the northeastern Oklahoma interests and representing the Chamber of Commerce of Tulsa and refineries, said that this commission has no power to locate industries and it was not its business to fix prices.

J. F. Lawrence representing the Kansas refiners vigorously opposed any change in the order of the commission fixing the 2 cent differential and said if they were to abandon that they might as well go on a strictly mileage basis.

Railroads Oppose

M. G. Roberts, representing the large trunk lines serving southern Kansas, said that these railroads are alarmed over this decision because of the very large percentage of their freight that is in the form of petroleum and its products and he wanted the differential abandoned and allow a reasonable rate to be fixed covering both the Kansas and Oklahoma refineries. He said that for 25 years these states have been built up by the rates in force and that there was no reason to change the principle upon which rates had been made during the last 10 years.

"You should not create this differential," he declared, "because groups in southern Kansas and Oklahoma have had the same rate for 25 years. They have prospered under the present arrangement. Why should you break down and turn over an adjustment under which they have prospered? This identical issue has been before you and 10 years ago you made a decision which should have settled it. Some times the carriers themselves make mistakes in their recommendations but you decided that these two territories should have the same rates. What has happened since that time to make a change necessary? Based on that decision millions of dollars have been invested in Oklahoma and these refiners relied upon that decision as fixing a principle upon which their rates should be made. They never would have made those investments in Oklahoma if they had expected there would be a differential of 2 cents in favor of Kansas refineries. The refineries were placed at Ponca City 12 miles from the border because your decision said there should be no differential. Why punish them by changing that decision? There is only a difference of 10 miles between central Kansas and northern Oklahoma."

No Change Wanted

R. E. Quirk, who represents the northeast Oklahoma refiners, referring to the production of Oklahoma as 762,000 bbls. a day with a refining capacity of 200,000 bbls., said it did not follow that because there is a great production of oil in the Seminole Field that there will be refineries there. He said they could not undertake to fix rates according to the prospective location of refinery interests and if they were to do that they might as well take in the rest of Kansas.

Commissioner Hall: "Would you want the same rate all the way down in Texas?"

Mr. Quirk: "If you want to please the greatest number of people, that would do it."

Commissioner Hall: "Suppose we want the right solution."

Mr. Quirk: "Lawrence wants a group for himself and eastern Kansas wants us to be penalized. We want the thing as is."

Late Fields

(Continued from Page 40)

Chapman & Lanier's No. 2 Montgomery, South of No. 1, pumped 148 bbls. the first 10 hours at 1,292-98 feet and this is believed to be different sand from No. 1.

In Brown County, northeast of the Fry Pool, Selby Oil Co.'s No. 2 Ellis gauged 282 bb's. the first 24 hours at 1,317-26 feet. This is a south offset to Forrest Oil Co.'s 25-bbl. pumper and opens possibilities for another prolific part of Fry district. West Texas production during May was 3,574,608 bbls, an increase of 609,010 bbls. over April. Crane County made 1,109,944 bbls. of this. Stocks increased 986,317 bbls. to 3,080,330 bbls. Capacity of steel storage is 6,330,921 bbls.

GULF COAST

HOUSTON, Tex., June 7.—Brain and others are rigging south of Tomball, Montgomery County.

The holdings of the Border Research Corp. and those of the Rycade Petroleum Corp., in south Louisiana parishes, have been merged under the title of a new corporation, known as the Louisiana Land & Exploration Co. The combined acreage aggregates 2,500,000 acres, practically all of which is marsh land or located in shallow levees and bayous.

The Rio Bravo Oil Co.'s No. 6 Settegast, on the northwest side of the Pierce Junction Pool, is flowing 800 bbls.

Yount Lee Oil Co.'s No. 31 McFaddin, at Spindletop, is flowing 2,000 bbls. at 4,970 feet. Sun Oil Co.'s No. 10 McLean started plowing 3,800 bbls. at 4,960 feet, but sanded.

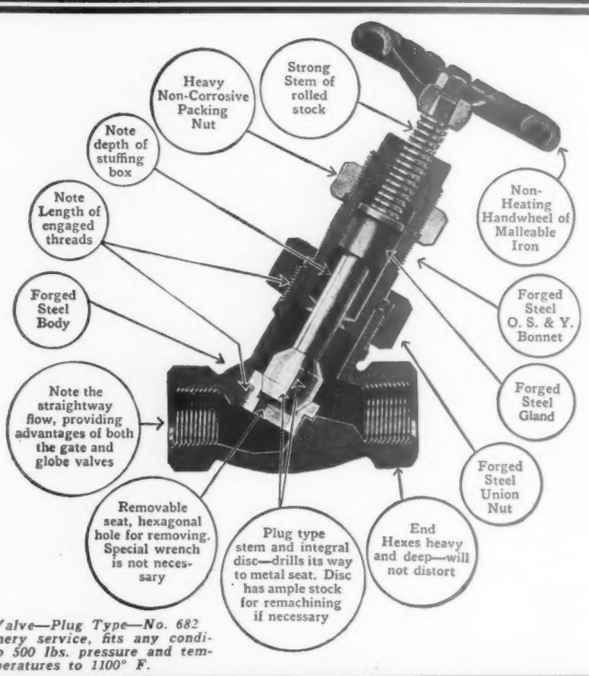
LOUISIANA

SHREVEPORT, La., June 7.—What appears to be a new gas field has been uncovered by the Ohio Oil Co.'s No. 1 McCarty, Section 5-12-1, West Winn Parish, which has topped a gas rock at a depth of 2,556 feet. Operators had difficulty in preventing a gas blowout, and Tuesday efforts were being made to test the volume. The Texas Company's No. B-13 Noel, Section 14-21-15, Pine Island district of Caddo Parish, blew in late Monday from a total depth of 3,035 feet. It blew in with the drill stem still in the hole and blew gas, salt water and rocks, but bridged over during the night. No estimate has been made on possible production.

COLOMBIA PIPE LINE

The loops to the original pipe line which increase the carrying capacity of the Andian National Pipe Line to 50,000 bbls. a day are reported to be 90 per cent completed.

EDWARD


Heavy Non-Corrosive Packing Nut
Strong Stem of rolled stock
Note depth of stuffing box
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Non-Heating Handwheel of Malleable Iron
Forged Steel Body
Forged Steel O. S. & Y. Bonnet
Note the straightway flow, providing advantages of both the gate and globe valves
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Removable seat, hexagonal hole for removing. Special wrench is not necessary
Plug type stem and integral disc—drills its way to metal seat. Disc has ample stock for remachining if necessary
End Hexes heavy and deep—will not distort

Globe Valve—Plug Type—No. 682 —for refinery service, fits any condition up to 500 lbs. pressure and temperatures to 1100° F.

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Edward Forged Steel Refinery Valves have 100% pipe area. Bodies, bonnets, glands and union nuts are machined from solid steel forgings, other parts of steel or Monel Metal as required. Special all-steel valves for use with sulphur content crude.

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—Write for Refiner Valve Catalog and Prices

Big Gas Fires in Hutchinson County; Five Men Are Burned

AMARILLO, Tex., June 4.—The Panhandle's biggest gusher, McIlroy Oil Co.'s No. 2 Cockrell, in Hutchinson County, 7 miles east of Borger, which has been a livid torch blazing 100 feet into the air for 60 hours, was extinguished by "Tex" Thornton, oil well shooter, with a charge of 60 quarts of T.N.T. The explosive was used only after a battery of steam boilers failed to extinguish the blaze.

The well, which had come in flowing 10,000 bbls. of oil a day, had paraffined to such an extent that the production was down to 1,000 bbls. a day when the gas caught fire. It was estimated that it was making 30,000,000 feet of gas when the fire started. After Thornton had extinguished the flames the well fell off as an oil producer, and on Thursday night was producing very little oil, although it was permitted to flow wide open.

Five Men Burned

Five men were burned, one probably fatally, when the Skelly Oil Co.'s No. 1, a gas well, in Section 82, caught fire at 6 o'clock Thursday night from a friction spark as the casing crew was setting the last joint of 6⅝-inch pipe.

Two of the men, George Cree, one of the contractors, and Clyde Bouland, driller, were taken to Amarillo, and three of the casing crew, McDowell, Donahue and Smith, are in the Dixon Creek Hospital. McDowell's condition was the most serious.

The well is one-fourth mile south of the McMillen Oil Co.'s No. 1 in Sanford, which exploded and caught fire with 80,000,000 feet of gas and resulted in the death of eight men and serious injury of five others last Thursday, and the third gas fire in the Sanford district within two weeks.

The big gas fire in the Skelly well was cut off with the 8-inch casing, but more gas was found lower down, and it is believed the well was running 35,000,000 feet when it caught fire.

DIESEL ENGINES OPEN FIELD FOR CONSUMPTION

(Continued from Page 31)

of 1.5 cents a mile for lubricating oil and grease, as compared with an average cost of one-half cent a mile for steam locomotives.

In water costs there is a very distinct saving in favor of the oil-electric. Four railroads, users of oil-electric locomotives, reported the water cost as negligible, while five other railroads reported a water cost of .000024 cents per mile. The cost for water alone, not taking into consideration the necessary accessories such as tanks, troughs and reservoirs, for steam locomotives averages about 1.3 cents a locomotive mile.

Annual Saving $337,000,000

Class 1 railroads spent $73,977,000 in 1925 for fuel, oil, water and other engine supplies for steam locomotives engaged in yard service. Oil-electric operation, on the basis of the figures now made available for the first time as a result of the survey, would make for an annual saving to the railroads, in yard service alone, of $55,000,000. If the same ratio of saving was applied to all steam locomotives now in use, oil-electric operation would effect an annual saving of $337,000,000 in the items of fuel, oil and water alone.

The survey also disclosed an availability record of 85 per cent for the oil-electric locomotive. This compares with an average availability of 40 per cent for the steam locomotive. Five railroads reported the number of days oil-electric locomotives had been in service. Over a period of 1,011 days six oil-electric locomotives were operated an average of 20.5 hours a day. Figured on this basis the oil-electric locomotive is capable of giving twice as many hours of locomotive service as a comparable steam locomotive, and can do the work of two steam locomotives. This is being demonstrated on one of the railroads where two oil-electric locomotives are now doing the work that formerly required the services of four steam locomotives.

Operating Costs Steam Locomotives Engaged In Yard Service Class 1 Railroads 1925

From reports to Interstate Commerce Commission:

Fuel for Yard Locomotives	$66,760,458
Lubricants for Yard Locomotives	1,352,898
Water for Yard Locomotives	4,404,398
Other Supplies, Yard Locomotives	1,459,378
Total	$73,977,132

Locomotive Miles

Yard Service, Freight	300,631,962
Yard Service, Passenger	23,575,834
Total	324,207,816

Summary, Steam Locomotives

Fuel Cost, per locomotive mile	$0.2061
Lubricants, per locomotive mile	0.0042
Water, per locomotive mile	0.0132
Other supplies, per locomotive mile	0.0045
Total	$0.229

OPERATING COSTS OF OIL-ELECTRIC LOCOMOTIVES ON TWELVE CLASS 1 RAILROADS

(Statistics covering 28,897 hours of locomotive service, or 173,465 locomotive miles)

60-Ton Oil-Electric Locomotives	Per Hr.	Per Mi.
Fuel	$0.175500	$ .0298
Oil	.066600	.0111
Water	.000116	.000019
Other Supplies	.018000	.0030
	$ .260216	$ .044619
100-Ton Oil-Electric Locomotives		
Fuel	$ .289000	$ .048200
Oil	.091900	.015300
Water	.000174	.000028
Other Supplies	.027000	.004500
	$ .408074	$ .068028
Combined—60 and 100-ton Oil Electric Locomotives		
Fuel	$ .2001	$ .0333
Oil	.0712	.0119
Water	.000145	.000024
Other Supplies	.0225	.00375
	$ .293945	$ .048299

32 Per Cent of Shut Down Drilling Wells In North Half Texas

The percentage of shut-down drilling wells in the North Central Texas, West Texas and Panhandle area is fairly uniform as to district. At the opening of June there were 202 active drilling and 97 shut-down operations in the Panhandle area, 99 active and 35 shut-down wells in the North Central area and 152 active and 69 shut-down wells in the West Texas area. In the Panhandle and North Central Texas the percentage of shut-down operations in each case was 32, while in the West Texas fields 31 per cent of the drilling wells were idle. In the East Texas fields 7 wells were actively drilling and 9 were shut down. In this area the percentage of idle wells was 56.

High Dry Hole Percentage

Out of 104 completions in the territory above mentioned in the week ending May 31, 50 were oil wells, 1 produced gas, 33 were dry and 20 others were abandoned for various reasons. The percentage of oil wells completed during the week was only 48. In the North Central area only 8 out of 27 completions were producers of oil; in Central Texas 19 out of 41; in the Panhandle 12 out of 16; in West Texas 11 out of 19.

PROGRESS REPORTED IN CORROSION TESTS

WASHINGTON, D. C., June 6.—The Bureau of Standards has prepared its second progress report on specimens of iron and steel pipe buried in its soil corrosion investigation. This is a co-operative study of soil corrosion involving approximately 90 organizations and over 14,000 specimens of pipe materials and protective coatings.

In general the report on the specimens removed in 1926 confirms the tentative conclusions drawn in 1924. Rapid corrosion of the pipe materials usually used for underground lines has been found in several soils and no one of the materials so far appears superior under all soil conditions. The rate of corrosion appears to be decreasing in a little over 50 per cent of the soils under test and increasing in about 25 per cent of these soils. The experiment has not continued long enough to warrant conclusions as to the life or relative merits of the materials under test.

Athey Wagons at work in Seminole Field

The Seminole Field with all its well known mud, rush and traffic difficulties, is being satisfactorily served by Athey Truss Wheel Wagons.

Notice the sizes of the loads. Only Atheys could handle them. That is why Athey Truss Wheel Wagons are the logical, economical, modern means for hauling heavy loads under all conditions.

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ATHEY TRUSS WHEEL WAGON
IT BRIDGES THE SOFT SPOTS

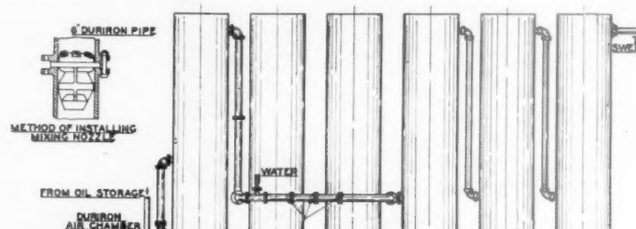
INDIAN REFINING CO. PERFECTS CONTINUOUS TREATING SYSTEM

By W. H. Scott
Indian Refining Co.

The unique continuous treating system being operated by the Indian Refining Co. at its Lawrenceville, Ill., plant is an impressive example of increasing and improving production and at the same time simplifying mechanical equipment.

The marked success attending this particular development shows that where quick results are desired in designing and producing new types of equipment, the best and most satisfactory results may be obtained by close co-operation between the user of the equipment and the firm manufacturing the equipment.

H. K. Hashbarger, chief engineer for the Indian Refining Co. conceived the idea that by using a special design of mixing nozzle and a positive and reliable method of introducing treating agents, the amount of equipment in a continuous treating system could be considerably reduced, and at the same time give better working conditions, and turn out a more uniform and satisfactory refined product.



He made sketches of what he wanted; took these and his ideas to the Duriron Co., Dayton, Ohio, and in three or four days fully developed these ideas and sketches, working in conjunction with the Duriron Co.'s engineers, with the result that in a few weeks the equipment was installed and operating successfully in the Lawrenceville plant.

Previous to last September the Lawrenceville plant was operating a set of continuous treaters composed of 24 agitators and settling tanks arranged in four rows of six each.

Methods of Operation

The new equipment installed which is shown in the accompanying line drawing, consists of two complete units each made up of a vertical mixing tube, in which two Duriron mixing nozzles are used for the acid mix. Washing is effected by using three Duriron mixing nozzles in a horizontal line shown in the views back of treating tanks 2 and 3. The acid is introduced into the 6-inch oil stream just below the mixing nozzles through a 1-inch Duriron elbow jet. The feed of acid is controlled by the Duriron proportioning pumps shown in the accompanying sketch. These proportioning pumps are direct motor driven through variable speed drives and may be set to deliver a given quantity under pressure as high as 75 pounds per square inch and within less than 1 per cent of absolute accuracy. An ample air chamber is placed in the discharge line just beyond the pump so that a nonpulsating flow is obtained at the elbow jet.

There are three such pump units, one each on the two acid treating systems, while a third pumping unit is held in reserve as a spare.

This plant is treating a mixture of pipe still benzine (initial boiling point 120 degrees) and pressure distillate (initial boiling point 90 degrees). The gravity of this mixture is changed very little in treating and the boiling point affected 1 degree or 2 degrees. The treating loss is considerably less than 1 per cent. Sludge produced—about 1 per cent total. Time of treating is 60 seconds. They are handling 200 bbls. per hour through the two treating systems. The use of agitators Nos. 2 and 3 in both systems has been discontinued and out of the six agitators in each unit only four are connected with the present system.

Owing to the efficiency of the Duriron mixing nozzles the system is running under from 15 to 20 pounds pressure instead of from 50 to 60 pounds as is customary. The sludge is settled out in agitator No. 1 in each system. The acid treated oil receives a thorough washing in the horizontal mixing line in which the three nozzles are used, while agitators Nos. 4, 5 and 6 are used for settling and caustic treating.

Since this system has been installed and operating, they have been able to produce an unusually good colored product and have been able to cut down the chemicals as formerly used, to a considerable extent. This saving in acid and other treating agents is made possible by the close calibration of the proportioning pumps and the very thorough mixing possible with the special mixing nozzles.

TOO MUCH OIL IN MARACAIBO DISTRICT

(Continued from Page 33)

of November and December, 1926. In other words, it looks very much as if the Lagunillas Field is in somewhat the same condition as is the Seminole Field in this country where production seems to be out of control of producers themselves and forced upon them by conditions.

For some months prior to the making of this report the companies which have obtained production have been very busy building steel storage tanks. An idea of the work they have done and are doing in that line may be gained from the following statistics on storage in the Maracaibo Basin:

Storage Building

"On October 1, 1925, the steel storage totaled 480,000 bbls.; on October 1, 1926, the steel storage totaled 1,630,000 bbls. At the present time the storage available or which will be available within the next 60 days totals 8,359,500 bbls. The Aruba storage of 530,000 bbls. should be added to the total of storage in the Maracaibo Basin, as one large operating company will be using the tanks now constructed there within a short time. It is almost impossible to give the exact storage statistics, for the tanks are being constructed so rapidly that by the time exact information is received and tabulated, other tanks have been constructed. It is stated that at Punta Benitez one 55,000-bbl. tank is being erected every four days.

"On the first of the year the tanker fleets now in Lake Maracaibo could haul to deep-sea loading ports a total of 3,942,000 bbls. a month, provided every ship worked to capacity. Shortly after the first of the year one of the large companies was able to use a new terminal and thus be freed from congested conditions in the deep-sea harbor which it had been using. This company's boats can now make 10 trips a month instead of 7, and should be able to take out every month an additional export of 984,000 bbls. Experience has shown that owing to delays in operation the tankers on Lake Maracaibo are on the average only 80 per cent efficient. If this percentage of efficiency is maintained during 1927, the export from Lake Maracaibo should total about 4,000,000 bbls. per month. The three companies which operate tanker fleets have ordered 13 tankers which are now being constructed or will be constructed in the near future. Each of these boats will be able to transport about 15,000 to 16,000 bbls. of oil. The first deliveries are scheduled for July and all should be in the lake by November. Allowing for delays in delivery, these additions to the tanker fleets should be able to transport an additional 2,000,000 and probably 4,000,000 bbls. by the end of the year. It seems safe to predict that the year's export from the Maracaibo Basin will be over 50,000,000 bbls."

A detailed recital of activities and results being obtained in the several oil fields of Venezuela follows:

El Mene Field

The deep tests put down in the El Mene Field during 1926 did not uncover a deeper sand. However, this field is producing from its shallow wells about the same amount of oil as it did at this time last year. Since the El Mene oil is contracted for at the lake loading station by a company operating a tanker fleet on Lake Marcaibo, and since the transportation problem need not be taken into account, the same, or even a greater activity than that which prevailed at this time last year may be seen in this field.

Ambrosio Field

The hopes for a great production from the Ambrosio Field have not yet been realized, as wells in the producing area for the most part have proved disappointing. A well being drilled out in the lake beyond the western limits of proven territory is now down about 1,300 feet and no indications of oil-bearing sands have been uncovered. However, no extensive exploration of this field has yet been made for the reason that the three companies operating at Ambrosio are much more interested in the Lagunillas Field and have practically stopped all operations at Ambrosio until more storage or more tankers are available.

La Rosa Field

Some construction work is going on at La Rosa, but this is mainly additions to the housing or office accommodations of companies established there. Some drilling is being done, but many of the old wells and also many of the new producers are being shut in until more storage is built or more transportation is procured. Great activity is to be seen at La Rosa, but this is chiefly due to the fact that the camps there are the supply camps for the Punta Benitez and Lagunillas operations.

Mene Grande Field

Operations in the Mene Grande Field are chiefly confined to extending the proven territory in all directions and to testing for deeper sands. Old producers have been shut in and new wells are also being shut in as soon as they are brought in. This field can produce at least 1,500,000 bbls. a month, but it being allowed to produce only enough oil to operate the San Lorenzo refinery. Unless conditions materially change, and this can happen only through an unexpected decrease in the Lagunillas production or through an equally unexpected intercompany agreement to check production there, the Mene Grande Field during 1927 will not be permitted to export more, and will probably be forced to export less, than 33 per cent of its potential production.

Rio Tarra and Rio Le Oro Fields

In the Rio de Oro and the Rio Tarra Fields wells are being brought in and shut in. This is for the reason that the company operating these fields has at present means of transporting the oil to water transportation. It is possible that the construction of a pipe line from the Tarra Field to some place on the shores of Lake Maracaibo near the Rio Catatumbo will be started some time during 1927.

Concepcion Field

During 1926 production in the Concepcion Field was not up to the expectations of the officials of the operating company. During the year gas pressure in the producing sands weakened to such an extent that most wells are now being pumped. Plans for extensive construction have been curtailed, although the drilling program has not been cut.

La Paz Field

Drilling progressed in a satisfactory manner in the La Paz Field, and it is probable that eventually a large producing area will be uncovered. The oil from this field is of a very high grade and could be used to advantage. However, the company operating that field is in no danger of competition there and consequently a recent order from London stopping all work was not much of a surprise in view of the present situation at Lagunillas and the ever-present transportation problem. The operating officials, the employes, most of the day labor and materials have been transferred from La Paz to the operating company's concessions at Lagunillas.

The Sibucara Well

The Sibucara well, a few kilometers west of Maracaibo, was expected to tap commercial production. Although large pockets of gas were struck and many showings of oil were found, the well was recently abandoned at a depth of 2,940 feet.

Mara District

In the Mara district to the northwest of Maracaibo a company holding large concessions there is operating two diamond drills in sinking test wells. In the Amana well, a wildcat in this district, it is reported that a slight showing of gas and a trace of oil was encountered at about 1,400 feet.

Urumaco Field

In the Urumaco Field in the district of Miranda, State of Falcon, another well is being drilled within 200 meters of El Mamon No. 1, the discovery well. It will be remembered that El Mamon No. 1 caught fire last November and the hole had to be junked. It is probable that production will be obtained there within a short time, but what will be done with the oil, as far as is known in Maracaibo, has not yet been decided.

Central Area of Buchivacoa District

The latest news to reach Maracaibo concerning the wildcat well, known as Hombre Pintado, which is being drilled in the central area of the district of Buchivacoa, State of Falcon, is that a tar sand was encountered at 615 feet. It is stated that this sand is 43 feet deep and that it gave a tested daily production of 225 bbls. of 21 gravity oil. This producing sand will be cased off and the well drilled deeper.

Lagunillas Field

The first well in the Lagunillas Field was brought in during May, 1926, but production was closed until in August. Since that many wells have been drilled there, and, as stated in previous paragraphs, so much oil is now being obtained it has necessitated the curtailment of production in other fields. At present there are in that field 16 producing wells, 13 wells are being drilled, and derricks have been erected on 7 locations.

The present daily production of the field is about 82,000 bbls.

Punta Benitez Field

The discovery well in the Punta Benitez Field was brought in during August, but owing to storms which broke the pipe line, production was not exported until the middle of October. At present there are 13 producing wells in this field and 5 wells are being drilled. The total daily production is about 4,100 bbls.

PENNSYLVANIA MARKETS

OIL CITY, Pa., June 4.—Gasoline and wax furnished the encouraging points of the Pennsylvania refined market during the past week, both having strengthened considerably. Gasoline and naphthas are stronger and there is less to be purchased as bargain prices. Demand is considerably improved. Wax is in with greater demand and higher prices. Neutrals continue to be very scarce and strong with demand good. Fuel oil is somewhat weaker with demand smaller and price lower. Cylinder stocks are not in much demand. Kerosene is weaker. There was a little better demand for bright stocks.

TANK WAGON PRICES NEAR LOW MARKS OF PREVIOUS 10 YEARS

The continued decline of the average gasoline tank wagon prices in The Oil and Gas Journal's 50 representative cities amounted to .55 cents per gallon over May. At 14.77 cents per gallon, the average on June 1 was the lowest since January 1, 1925, and was within 1 cent of equaling the lowest average during the past 10 years. The only times the tank wagon price has been lower than that on June 1 was during the last two months of 1923 and the last three months of 1924.

Over last year the average price was 18.347 cents and with the June 1 figure at 14.77 cents there is a loss of 3.577 cents accruing on every gallon sold, when compared to last year's average revenue. When comparing the price on June 1 of last year with the June 1 price of this year a loss of 4.37 cents per gallon is shown and on that basis is decreasing the industry's revenue by approximately $1,425,000 daily.

During May there were general tank wagon reductions in all parts of the United States except in the California territory, where abnormally low prices had previously been instituted during "price wars" and in meeting the competition of "bootleg" gasoline. The major change came with the lowering of the tank wagon price 2 cents on May 10, by the Standard Oil Co. of Indiana and made effective throughout their territory, except where prices were already below normal.

The raising of the gasoline tax in Ohio on May 25 from 2 cents to 3 cents, raised the average tax over the country to 2.75 per gallon and reflects the general tendency toward higher gasoline taxes.

AVERAGE TANK WAGON PRICE IN 50 CITIES

January 1, 1926	16.133
February 1	16.213
March 1	17.267
April 1	18.517
May 1	18.487
June 1	19.607
July 1	19.697
August 1	19.697
September 1	19.587
October 1	19.167
November 1	18.187
December 1	17.607
January 1, 1927	17.567
February 1	17 469
March 1	17.007
April 1	16.160
May 1	15.320
June 1	14.770

GASOLINE PRICES EFFECTIVE JUNE 1, 1927

Table showing gasoline tank wagon prices as of June 1, 1927, exclusive of taxes, in 50 representative cities, including the amount and the date of changes since May 1, 1927. High and low prices and state taxes also given.

	Prices May 1	May Changes		Prices June 1	High and Low —1926—		—1925—		1927
Birmingham, Ala.	16.0	14 14.0	....	14.0	20.0	16.0	20.0	13.0	4.0
Phoenix, Ariz.	16.0	4 13.0	....	18.0	22.0	19.0	20.0	18.0	3.0
Little Rock, Ark.	13.0	....	....	13.0	18.0	14.0	19.0	12.0	4.0
San Franscisco, Calif.	9.0	4 13.0	....	13.0	16.0	13.0	15.0	13.0	2.0
Denver, Colo.	14.0	15 15.0	....	15.0	20.0	16.0	20.0	12.0	3.0
Hartford, Conn.	19.0	....	....	19.0	21.0	17.0	21.0	15.0	2.0
Dover, Del.	16.0	....	....	16.0	20.0	17.0	21.0	15.0	3.0
Jacksonville, Fla.	14.0	14 13.0	....	13.0	19.0	12.0	19.0	12.0	4.0
*Atlanta, Ga.	16.0	3 14.0	....	14.0	21.0	14.0	21.0	14.0	3.5
Boise, Idaho	19.5	....	....	19.5	24.0	20.0	21.5	19.0	4.0
Peoria, Ill.	15.2	10 13.2	....	13.2	19.2	10.5	19.2	10.5	...
Chicago, Ill.	16.0	10 14.0	....	14.0	18.0	15.0	18.0	13.0	...
Indianapolis, Ind.	15.2	10 13.2	....	13.2	19.2	16.2	19.2	13.2	3.0
Des Moines, Iowa	13.0	....	....	13.0	19.5	16.0	19.5	13.5	2.0
Wichita, Kans.	13.8	10 11.8	....	11.8	16.8	14.8	18.8	8.8	2.0
Louisville, Ky.	14.0	....	....	14.0	20.0	17.0	19.0	12.0	5.0
New Orleans, La.	14.5	19 12.5	....	12.5	17.5	13.5	18.5	11.5	†3.0
Augusta, Me.	19.0	....	....	19.0	21.0	17.0	22.0	15.0	3.0
Baltimore, Md.	16.0	....	....	16.0	19.0	15.0	19.0	13.0	4.0
Springfield, Mass.	19.0	15 17.0	....	17.0	21.0	17.0	21.0	15.0	...
Detroit, Mich.	15.8	10 13.8	....	13.8	19.8	16.8	19.8	13.8	2.0
Duluth, Minn.	15.5	10 14.5	....	14.5	20.5	15.5	20.5	13.5	2.0
Natchez, Miss.	14.5	14 12.5	....	12.5	18.5	15.5	18.5	11.5	4.0
Kansas City, Mo.	14.0	10 12.9	....	12.9	18.9	15.9	18.9	12.9	†3.0
Helena, Mont.	19.5	....	....	19.5	24.0	21.0	24.0	18.0	3.0
Omaha, Neb.	14.25	10 13.25	....	13.25	19.25	14.25	19.25	10.0	2.0
Reno, Nev.	15.0	4 17.0	....	17.0	19.5	16.5	18.5	16.5	4.0
Newark, N. J.	16.0	....	....	16.0	19.0	15.0	19.0	13.5	...
Albuquerque, N. Mex.	16.0	....	....	16.0	26.5	20.0	23.5	19.5	5.0
New York, N. Y.	19.0	....	....	19.0	21.0	17.0	22.0	15.0	...
Charlotte, N. C.	16.0	....	....	16.0	19.5	15.5	20.0	12.0	4.0
Fargo, N. D.	17.9	10 15.9	17 14.0	14.0	21.0	18.9	20.9	14.9	2.0
Cleveland, Ohio	16.0	....	....	16.0	20.0	16.0	18.5	15.0	3.0
Tulsa, Okla.	13.0	16 11.0	....	11.0	17.0	13.0	18.0	9.5	3.0
Portland, Ore.	11.0	4 13.5	....	13.5	16.0	13.0	16.0	13.0	3.0
Philadelphia, Pa.	15.0	15 14.0	....	14.0	20.0	17.0	21.0	15.0	‡2.0
Providence, R. I.	19.0	15 17.0	....	17.0	21.0	17.0	22.0	15.0	1.0
Charleston, S. C.	15.0	....	....	15.0	19.5	15.0	20.5	12.5	5.0
Huron, S. D.	11.5	....	....	11.5	20.5	14.0	20.0	13.0	3.0
Memphis, Tenn.	14.0	....	19 10.0	10.0	18.5	13.5	18.5	10.5	3.0
Dallas, Tex.	10.0	....	....	10.0	17.0	13.0	18.0	10.0	3.0
Salt Lake City, Utah	17.5	....	....	17.5	22.5	18.5	21.5	17.5	3.5
Burlington, Vt.	19.0	....	....	19.0	21.0	18.0	22.0	15.0	2.0
Norfolk, Va.	16.0	....	....	16.0	19.0	15.0	20.0	14.5	4.5
Washington, D. C.	16.0	....	....	16.0	19.0	15.0	19.0	14.0	2.0
Charleston, W. Va.	16.0	....	....	16.0	19.0	15.0	19.0	14.0	3.5
Milwaukee, Wis.	15.1	....	10 13.1	13.1	19.1	16.1	19.1	13.1	2.0
Casper, Wyo.	15.0	....	....	15.0	20.0	17.0	20.0	15.0	3.0
Seattle, Wash.	11.0	4 13.5	....	13.5	16.0	13.0	15.0	13.0	2.0
Minneapolis, Minn.	14.2	....	....	12.0	20.2	15.2	20.2	13.2	2.0
Average price	15.32	....	....	14.77	19.717	15.713	19.647	13.629	2.75

Note: Prices at points in the Standard Oil Co. of Indiana, effective January 19, based on 1-cent discount for 50-gallon dumps with following exceptions: Wichita discount prices effective for entire month and Chicago prices entire month based on dumps of 100 gallons. *Does not include ⅛-cent inspection fee. †State tax 2 cents, remainder city tax. ‡Tax paid by retail dealer.

SMALL ADVANCE IN U. S. MOTOR GASOLINE

(Continued from Page 30)

ation at the opening of May of this year and last. These data when compared with the reports covering the entire United States will show that the Mid-Continent refiners considered as a unit for the most part have followed the general trend of operations. The crude runs to stills are just a little greater than a year ago. The increase in gasoline stocks of 938,000 bbls. (approximately 40,000,000 gallons) is not an abnormal increase when the increase in consumption is considered.

The most noteworthy increase in stocks applies to kerosene. Last year on May 1, the stocks were the lowest in years with a total of 489,000 bbls. It will be recalled that the kerosene market at that time was exceptionally strong.

The trend in stocks has been upward since that time and on May 1 of this year the total for the Mid-Continent was 1,131,000 bbls. This is not a record in Mid-Continent stocks, but does reflect a situation between supply and demand which no doubts accounts for the present weakness in the market.

Fuel and gas stocks on May 1 of this year were high for the Mid-Continent, representing an increase of approximately 30 per cent over the year before. A large part of this increase no doubt comes from the storage of gas oil, a development of the fact that many have curtailed their cracking operations due to low price gasoline.

Considered for the entire industry, the available data on refinery operations do not justify either extreme optimism or pessimism. Some are inclined to point to the relatively low gasoline stocks when considered on a basis of days supply. However, this same situation has obtained for the past three years and has not prevented low gasoline prices. The development of cracking and other perfections in processing looking to the increased yield of gasoline from a barrel of crude has tended to minimize the importance of gasoline stocks as a price factor so that comparisons based on days supply have lost a part of their market significance.

As one refinery executive in the Mid-Continent has said, "The refiners are in position to take advantage of any improvement in the crude situation, but as long as the overproduction of raw material stares the industry in the face no special improvement in prices on refined products is to be expected."

Gasolines and Naphthas

The improvement of one-eighth of a cent in the U. S. Motor gasoline price over the week is indicative of the improved tone of the market. There was little activity in the higher gravity gasolines, except for an inquiry on 1,000,000 gallons of 375 endpoint gasoline, made by a large purchaser who set the price below 7 cents. Prices were unchanged. Naphthas and all 400 endpoint gasolines advanced one-eighth cent with gasoline and were in better demand as a result of the weaker natural gasoline market. As much of the normal naphtha production is being blended at the refineries in their vapor recovery systems, there is a lesser volume available on the open market. Counteracting this tendency, however, some refiners are increasing the production of the lower endpoint gasolines for their stations and as this production is increased the heavier ends of the normal gasoline cut can be made into naphtha.

Kerosene and Distillates

With increased stocks in the Mid-Continent, the kerosene market is weak, and the price has been reduced one-eighth cent over the week. With the 41-43 grade selling at 4¼ to 4½ cents and the 42-44 grade at 4⅝ to 4¾ cents, there is but little difference in price and the general tendency to increase the production of the lighter grade is evidenced.

The distillate market strengthened somewhat, and more than the usual June trading was done. This demand is to supply the prolonged use of household burners in the north central states where temperatures have been abnormally low for this period of the year, and also for use next year. In this connection attention is called to feature articles on furnace oil market conditions on pages 34 and 35.

Fuel Oils and Gas Oil

A slight weakening of the fuel oil market was felt as the prices on some of the lighter grades were reduced 2½ cents. This reflects the lower gas oil price which fell off one-eighth cent on the dark grade.

Natural Gasolines

The natural gasoline market developed considerable weakness over the week as prices were decreased from one-fourth cent on Grade C to one-half cent on the A and AA grades. The continued high rate of production with a dearth of buying by major refiners is held responsible for the weakness.

Lubricating Oils and Wax

There were no price changes on the lubricating oils, and waxes appeared stronger. Although the majority of the wax shipments were made on old contracts, the better eastern market was an incentive for the Oklahoma refiners to increase their quotations from one-eighth to one-quarter cent.

SHREVEPORT MARKETS ARE MARKING TIME

SHREVEPORT, La., June 6.—North Louisiana and Arkansas refinery markets reflected very little change the past week, and as the new week opens apparently are only marking time. Demand for gasoline continues good in small lot orders and prices of all products are steady. Refiners in this district are having no difficulty in getting 6¾ cents for 56-58 U. S. Motor gasoline and on scattered cars are receiving 7 cents. Only in one product, natural gasoline, is there a soft tone, with refiners here being able to pick up cheap material again out of North Texas and Oklahoma.

A sale of 50 cars of fuel oil by one refiner during the week was out of the ordinary, as this product is finding slow movement on the open market. The prevailing market is steady at $1.15, and this one order, for future delivery, was placed at $1.17½. Gas oil was firm at 3 to 3¼ cents Monday and very little material was offered at the low price.

***MID-CONTINENT REFINERY OPERATIONS**

(Figures given in thousands of barrels.)

	Crude Runs to Stills Bbls.	Gasoline Output	Gasoline Stocks May 1	Kerosene Output	Kerosene Stocks	Fuel&Gas Oil Output	Fuel&Gas Oil Stocks May 1
April, 1927	12,675	5,781	5,595	978	1,131	5,292	6,278
April, 1926	12,046	5,488	4,657	970	489	4,929	4,854
Increase	629	293	938	8	642	363	1,424

*Oklahoma, Kansas, North Central Texas, North Louisiana and Arkansas. Based on Bureau of Mines reports.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

The Question and Answer Department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry. Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

VOLATILITY OF GASOLINE FROM THE ENGINE STANDPOINT.

Many engineers say the gradual tendency to high compression motors will cause development of higher motor temperatures. If this is true, all other things being equal, would you not expect a little better mileage on a 430 endpoint gasoline than a 400 endpoint gasoline?—H. J. S.

Extensive experiments have been made, under the direction of Dr. H. C. Dickinson of the United States Bureau of Standards, on the volatility of gasoline from the standpoint of engine performance and the following is quoted from his statement:

"Under operating conditions air and gasoline spray enter the manifold of an automobile engine. Here they are intimately mixed by turbulence of the air stream, heated to some extent by contact with the walls of the manifold and enter the cylinders in about the correct proportions. Entering through the intake valve still further increases the turbulence and consequent mixing of the charge. Generally, the liquid is not all evaporated at this stage, but probably much of it is in the form of small droplets which are further vaporized by mixing with the residual hot exhaust gases in the cylinder by contact with the hot cylinder wall, and by adiabatic compression of the charge before ignition. Hence, under ordinary running conditions, very little, if any, liquid should remain at the time of ignition.

"What little gasoline may remain in the form of droplets suspended in the air at the end of the compression stroke, is probably vaporized and burned during the power stroke. However, if the cylinder walls, with their film of lubricant, are at too low a temperature, liquid particles striking them will be dissolved in the oil film, or under extreme conditions, fuel vapor may be condensed on the walls The oil thus diluted in the cylinder is interchanged with oil in the crankcase by the reciprocating action of the piston and thus dilute the crankcase oil.

"There is, therefore, a critical temperature for any particular fuel mixture ratio and engine above which all the fuel will be evaporated before the charge is fired and below which it will not. Similarly, there is a critical temperature above which fuel will not be condensed or dissolved in the oil film to any serious extent and below which it will be condensed and dilute the lubricant. Tests and experience have shown that the latter temperature imposes the more serious limitations on the use of fuels of low volatility. When means are adopted for decreasing dilution, by higher operating temperatures or otherwise, the requirements for a good fuel are correspondingly changed. The higher the temperature, the more favorable are the conditions for fuels of low volatility. Also, what may be good for the car operated for periods with few starts and stops, i.e., with few periods of cold operation, may not be good fuel for a car operated with frequent stops and cold starts.

"The temperature at which substantially complete vaporization takes place under such conditions indicates the operating volatility of the fuel, and this volatility for a satisfactory motor fuel should be such that the dilution of the crankcase oil is not excessive under expected conditions of engine operation."

We may add to the above conclusions of Doctor Dickinson that the refining of 400 endpoint gasoline is somewhat easier than that required for a 430 endpoint product. Elevation of endpoint brings heavier substances into the fraction, as it is separated from the crude, the extreme motor temperatures do not volatilize them. Many experts believe that the 400 endpoint gasoline is the most satisfactory fuel which has been made. The automotive engineer is endeavoring to design motors which will more completely utilize the power developed by this grade of gasoline.

TEMPERATURE OF OIL FROM STEAM TURBINE BEARINGS.

Can you give me what is considered a reasonable temperature for the oil to run from the bearings in a steam turbine? Ours runs around 180. Is this too high? —E. R.

Some turbines show higher bearing temperatures than others, and while this temperature of 180 degrees Fahrenheit may be normal with the make you have it would be well to investigate the lubricating conditions. If the high temperature, say about 40 degrees too high, is caused by poor lubrication the condition should be corrected by proper adjustment of the oil supply and this may include changing to a better grade of lubricating oil.

Your cooling system may not be functioning as it should; the circulating water may not cool enough, or the volume should be increased.

SALT WATER POLLUTION OF WATER SUPPLIES

Extensive oil fields are operating on our water shed. We wish to inquire what methods are used to abate salt water polution of the water supplies? Is it practicable to pump this water back into the earth? Our salt content is below 300 parts per 1,000,000 but suspect that we are accumulating a salt bed below the bed of the river in the gravel and wish to ask if you think this may be true?—C. C. H.

It is the practice of oil producers to endeavor to prevent salt water that may be brought to the surface in the course of drilling, or that which is sometimes produced with oil, from running into a stream. This is done by directing the water into a sump, from which it seeps into the ground. Under some conditions salt water is pumped into the ground, frequently through a key well for the purpose of flooding the oil sand so as to obtain increased production of oil from adjacent wells. The water found in oil fields has been found to contain common salt and other salts in sufficient quantities to make their extraction profitable. When the conditions are favorable works may be built for manufacturing numerous salts and chemicals from this water.

As you know, salt is very soluble in water and if you are finding only 300 parts per 1,000,000 in your water supply, the concentration is far below that necessary for the deposition of a salt bed. Salt cannot be deposited from solution until saturation has been obtained, and any water which might be increasing in the percentage of salt, would be rejected, because of taste and action on cooking utensils, long before reaching the point of saturation.

STANDARD CONDITIONS FOR MEASURING GAS.

Would you mind explaining what is meant by standard conditions for measuring gas?—F. H. P.

These are conditions of temperature and pressure. As gas changes in volume when temperature and pressure conditions are altered, it is necessary to have these variables reduced to some fixed point. The usual practice in the petroleum industry is to reduce temperatures to 60 degrees Fahrenheit, and calculate pressure to the basis of 30 inches of mercury. Frequently, it is more convenient to reduce temperatures to zero Centigrade, and pressures to 760 mm. of mercury.

Many calculations are made which are convenient when temperatures and pressures are expressed in absolute terms. Absolute temperatures are obtained by adding the observed temperature, in Centigrade degrees, to 273.13 Centigrade, or simply 273; which is that many degrees below the freezing point of water or the zero point on the Centigrade scale. It is equivalent to 491.6 or 460 Fahrenheit degrees.

All ordinary pressure measurements are obtained from gauge readings and these indicate pounds per square inch. There is no need to obtain exact observations from a barometer, because the gauge pressure may be converted to atmospheric (760 mm.) on the basis that one atmospheric pressure is equivalent to 14.4 pounds to the square inch. The gauge pressure is the difference between the pressure of the gas and the atmospheric pressure.

When temperatures are reduced to 60 degrees Fahrenheit, this would be the same as 520 degrees absolute Fahrenheit.

The fundamental equation for the perfect gas was given in this department January 6, 1927.

DESCRIPTION AND USE OF CHEESE-BOX STILL

Will you give me the reference to some book where I can get information about the cheese-box type of still and how it is used?—J. H. P.

Modern books of petroleum refining have little to say about the cheese-box still; however, you will find descriptions, with drawings, in American Petroleum Industry, by Bacon and Hamor, starting at page 721, of volume 2.

The cheese-box type of still is used today only to a limited extent in a few of the small refineries for the distillation of crude oil. It is considered to be much lower in efficiency than the modern horizontal still, and it cannot begin to approach the pipe still in capacity.

The cheese-box still is suitable for some forms of treating, and continues to be used for that purpose. The shape is adapted for the installation of mechanical devices, such as stirring apparatus, which must be used when solid material is introduced into the still.

SOLUBILITY AND REMOVAL OF PARAFFIN WAX.

What substances are used for dissolving and removing wax from wells and pipes, such as those for the transportation of oil?—W. C. E.

The word paraffin is derived from two Latin words: parum, meaning too little, and affinis, meaning akin. The word was coined for the purpose of indicating the chemical character of the members of a certain group; that is, these substances have little attraction or affinity for other substances. Paraffin wax is one member of this group which does not under ordinary conditions readily unite with other substances. We have no knowledge of any substance which will dissolve and combine with paraffin wax so as to permit its removal from oil. The wax is soluble to some extent in a number of substances; for example, about 2 per cent in ether, 2.5 per cent in chloroform, 115 per cent in light gasoline and 13 per cent in carbon bisulphide. When pipes are free of oil it might be feasible to remove some of the wax from the walls by means of gasoline. However, some form of a scraper should be more economical.

The deposition of wax in wells, tubing and pipe lines has presented a problem in the Panhandle district of Texas. Mechanical means have been employed there for its removal. These have been described by N. O. Miller and E. O. Bennett of the Marland Oil Co., and C. E. Reistle of the United States Bureau of Mines. The following is extracted from an article by E. O. Bennett in The Oil and Gas Journal, October 21, 1926, page 154:

"Production in the Panhandle is lowered by the accumulation of wax on the face of the producing sand. Some of the wax appears to be separated from the oil through the reduction of temperature caused by the passage of gas at reduced pressure. Some of the operators in this field have used hot water and let it stand on the face of the sand to dissolve the paraffin. Others have used butane, or high-gravity gasoline to dissolve it.

"In flowing wells the wax deposit is greater near the well head. A scraper or knife, has been developed for removing this. The oil flows through it while it passes up and down, cutting away the wax, which then flows out with the oil. The induction of live steam, or heated gas, into the casinghead and lines are included in other methods. Flow devils, slip disks and similar tools are also used."

WELDED OR RIVETED TANKS FOR TREATERS.

We have used riveted tanks in our continuous treaters which have given considerable trouble from corrosion and leaking about the rivets. Would seamless welded tanks give better service?—A. J.

Seamless tanks have been found to be more satisfactory for use in continuous treaters. This may be due to some extent to the composition of the steel, but more rough surface is exposed to the action of the acid and alkaline material in the riveted tank. When riveting a tank the composition of the metal around the rivet hole is altered because of the action of the hot rivet and the necessary force in driving the rivet. This weakening of the steel renders it more susceptible to the action of the chemicals.

Many welded tanks have been used in continuous treaters without lead linings, so this fact makes it possible to reduce the cost for erection to a considerable extent. The smooth surface, and possible better chemical composition of the steel of the welded tank reduces the conditions which may be favorable for corrosion.

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Smithsteel Cracking Stills do cost more than vessels made by some other methods. The extra cost is the price of safety.

SMITHSTEEL CRACKING STILLS

Glaucosil As a Purification Agent

Laboratory and Commercial Tests Show Product Has Promising Possibilities in the Manufacture of Lubricants

By J. W. Turrentine, M. S., Ph.D.
Chemist in Charge, Potash Investigations, United States Department of Agriculture

In 1919, when the writer was engaged in the development of decolorizing carbons as a side product of the extraction of potash from kelp, he was impressed by the seeming demand of the petroleum industry for a purifying agent which would be as effective in the treatment of oils as are the better grades of carbon in the decolorization of nonoleoginous solution. What apparently was required was an adsorbent more acidic than carbon. Highly activated carbons on a cost basis suffered in comparison with relatively crude siliceous products.

In the manufacture of siliceous decolorizing agents, it was observed, superior products were obtained when the crude earths were treated with sulphuric acid to remove in part their basic constituents. Clays showed superior activity after the partial removal of the aluminum constituent, thus enhancing the acidic properties of the earth. The resulting dilute solution of aluminum salt, generally the sulphate, represented a waste product. The operation, therefore, yielded no return other than that represented by the enhancement in activity of the treated earth and the increase in price obtainable as a result. The increase in activity was moderate and the by-products had no value.

It appeared to the writer that carrying the extraction process further through removing practically if not all of the bases present should yield a product of still greater acidic nature and hence of still greater activity; and that if there were chosen an earth or silicate which contained among its basic components materials easily susceptible of conversion into useful products, the net cost of the treatment might be reduced through their fabrication into merchantable by-products. Since the production of potash from American raw materials has for a number of years been an objective of the chemical researches of the laboratories of the Bureau of Soils, it was natural that in choosing a silicate to which to apply this idea, a potash silicate should be preferred, and it then followed in natural order that the potash silicate selected should be greensand. It is well known that greensand deposits in the Atlantic States constitute America's greatest potential potash resource so far surveyed. By applying this idea to greensand, it was hoped that there would be produced a siliceous decolorizing agent which on the one hand would be more active than fuller's earth, and on the other hand, cheaper than silica gel, and that concurrently potash and other by-products would be made available to share the costs of processing. Thus would be linked the production of decolorizing and purifying agents for oils with that of potash and possibly other products, to the economic advantage of both.

Properties of Glaucosil

This principle applied to greensand yields a peculiar form of silica which has been given the trade name of glaucosil, and which has been found to possess marked adsorptive properties, making it an effective agent for the purification of oils, the decolorization of nonoleoginous solutions and the recovery of solvent vapors.

Greensand has the marked advantage over most of the other potash-bearing minerals, in that as it occurs naturally, it is in a finely divided condition, suitable for treatment directly without grinding. It is composed of unconsolidated mineral particles of a fairly uniform appearance, composition and size. It is green in color and is of such a state of subdivision as to pass a 20-mesh sieve.

In chemical composition, greensand is a potassium—iron—aluminum silicate, containing approximately 7 per cent potash (K_2O), 18-23 per cent ferric oxide, 8-10 per cent alumina and 50 per cent silicia.

Process of Treatment

The process of treatment as developed in these laboratories consists in the digestion of greensand preferably with sulphuric acid. Under proper conditions, the heat developed by the exothermic reactions involved is sufficient to bring the digestion to completion, resulting in a highly concentrated solution of the sulphates of potassium, aluminum and iron, and an insoluble residue of silicia, completely relieved of the metallic oxides with which it was in combination to form the silicate, greensand. After washing and drying, this product is ready for use, though it may be subjected to certain subsequent treatment to increase its activity. By simple chemical procedures, the potassium, aluminum and iron are separated to yield potassium sulphate, alumina, of metallurgical grade, and iron oxide, or they may be sold as intermediate products, such as alum and "copperas." Thus, it is seen, the process is a simple one, involving no expensive operation, and yields an extraordinary list of merchantable products. The yield in glaucosil is approximately 50 per cent of the greensand processed.

Laboratory Tests

Glaucosil has been experimentally applied to the decolorization and purification of various petroleum products in comparison with fuller's earth, silica gel and other well-known adsorbents. These tests here referred to have been conducted only on a laboratory scale. Large-scale tests have been made by manufacturers with results which for the time being must be held as confidential. As the result of these tests in certain large refineries, glaucosil has replaced fuller's earth formerly regarded as a satisfactory purifying agent.

The laboratory tests were made principally on heavy oils of the lubricating type. In one series of experiments "Manchester spindle stock," obtained through the courtesy of the Atlantic Refining Co., was employed.

In these experiments, glaucosil was applied to the oil in the proportion of 2 grams to 10 cc. The mixture was heated for 15 minutes at a maximum temperature of 130 degrees Centigrade, and after filtering was compared with standards prepared from the same oil and the degree of decolorization noted. Under these conditions, 70 per cent of the color was removed. Experiments in which varying amounts of the adsorbent were used and successive applications were made, designed to test the efficiency of glaucosil when employed counter-current wise were affirmative in that they showed that when so applied equal decolorization could be obtained with a smaller quantity of this adsorbent, or, with an equal amount, increased decolorization resulted. Variation in size particle showed a higher activity for the finer than the coarser fractions. However, when the coarser fractions were ground to a particle size equal to that of the finer, equal activity was shown. This would indicate that the adsorptive properties of glaucosil are a characteristic of the peculiar form of silica of which it is composed and are not merely the result of a superficial condition developed on the surface of the particles.

In all of these experiments glaucosil was compared with various other silicious adsorbents, such as fuller's earths, particularly with a standardized earth adopted as the most satisfactory by a leading oil refinery, as well as an assortment of others obtainable on the market without special reference to their peculiar adaptability, other clays, and silica gel. In all of these comparisons, glaucosil was shown to be equal to the best as a decolorizing agent and superior to the others.

Advantages

An advantage possessed by glaucosil over many other adsorbents of this class is its ready filterability. It is free filtering, permitting rapid filtration and readily affording a brilliant filtrate. Likewise, the oil obtained is easily recoverable, particularly so as compared with several of the finer earths.

A striking illustration of the activity of glaucosil as a purifying adsorbent for oils is obtained in the so-called regeneration of crankcase oil. In a specific instance "Quaker State" cylinder oil that had been discarded after a 600-mile run in a Dodge motor was heated, with stirring, to 200 degrees Centigrade with glaucosil in the proportion of 2 liters of oil to 400 grams of the adsorbent. After filtering, the oil, it was found, had been restored to its original color and superficially at least had entirely regained its valuable physical properties, all contaminants having been removed and the original brilliance restored.

In other series of experiments, again, with heavy black machine oil and likewise with certain vegetable oils, such as linseed, glaucosil showed marked efficiency as a decolorizing agent and pronounced superiority over several other adsorbents in common use in the oil industries.

In general, it may be said, therefore, that glaucosil in its present stage of development, shows itself to be equal to the best of the earths now in common use in industry and superior to the average. Its physical properties as a rule are superior. Whether further research will produce a material much superior to the present crude product remains for the future to disclose. This field of research is a promising one.

Solvent recovery has developed another field for adsorbent applications, certain constituents of gas mixtures such as those that emerge from paint or lacquer drying rooms, being absorbed in a recoverable state much as impurities and coloring matter are removed from liquids. Here again, glaucosil finds a field of usefulness and in this application on the experimental scale has been shown to be superior to certain other well-known silicious and earthly reagents in the absorption of such solvents as benzene and carbon tetrachloride.

The drying of gases for industrial use in an application for silica gel which has attracted marked attention. Glaucosil as an adsorbent for water vapor has shown a high degree of activty, not only effecting complete drying put possessing a high water-holding capacity. Its relatively low cost and the ease with which its activity may be restored through regeneration, make it a promising industrial reagent in this field of application.

Where Found

Glaucosil in competition with fuller's earth, assuming equal activity as a purifying agent, will possess an advantage in certain areas due to the proxmity of its points of production to the refineries and other industries where employed, while greensand occurs in many states of the coastal plains, the outstanding deposit is in New Jersey, here extending diagonally across the state from the Raritan Bay southwestward to the Delaware River, and being approximately 100 miles long, and on the average 10 miles wide and 20 feet thick. Being covered by only a few feet of overburden, the geensand here occurring can be recovered with steam shovels by surface-mining methods. These deposits are regarded as an inexhaustible potash resource and are certainly an inexhaustible source of glaucosil. There being no other deposits comparable to these so far discovered, the industry and products here to be developed will be distinctly American. Glaucosil will be of greatest service to the refineries of New Jersey and bordering states, which now import their requirements of fuller's earth for the most part from far distant states.

Fuller's earth has won great popularity as a purifying and contact agent in the petroleum industry, as is supported by the

(Continued on Page 161)

What Is Glaucosil?

Glaucosil is the trade name which has been given to one of several products secured in the chemical treatment of greensand. It is a granular product, in the crude state, gray to white in color, and in composition is practically pure silica in the noncrystalline condition. The particle size is roughly that of the original greensand, the extreme limits being 10 to 200, though the bulk of it consists of particles of 20 to 100 mesh. While it is easily ground to any desired fineness, it does not easily disintegrate from usage.

Being pure silica, it is heat-resistant and is able to withstand high regenerating temperatures without deterioration. While in many of its characteristics it resembles silica gel, it is to be sharply distinguished from that interesting product in that it is not a gel and does not swell or disintegrate in contact with water. It is to be distinguished from fuller's earth, bentonite and other clays or silicates in that it is more acidic through the complete removal of the bases which entered into the composition of the silicate from which it is formed.

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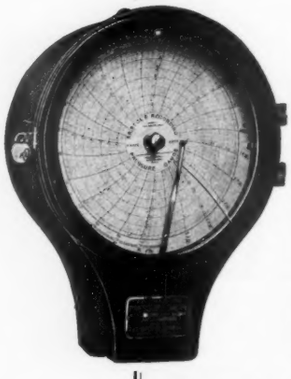

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PRODUCTION AND PIPE LINE RUNS, WEST TEXAS

Company, Lease, Well No.—	Days Produced	Total Gross Production	Total Pipe Line Runs*	
Crane County				
Church-Fields, University 1	27	2,363	2,263	Humble PL Co.
Church-Weekly, University 1	30	47,844	7,649	Southern PL Co.
			39,170	Humble PL Co.
Cromwell et al, University 1	30	31,115	17,412	Humble PL Co.
Eastland Oil Co.:				
University 1	30			
University 2	6			
University 4	16		114,098	Humble PL Co.
University 8	15	162,117	39,017	Southern PL Co.
Gulf Production Co.:				
Crier-McElroy 1	30	47,973		
Crier-McElroy 2	29	5,652		
Crier-McElroy 3	30	3,014		
Crier-McElroy 4	30	8,627	50,664	Gulf PL Co.
Crier-McElroy 5	30	2,076	17,993	Humble PL Co.
Crier-McElroy-A 1	30	13,509		
Crier-McElroy 2	30	23,509	35,689	Gulf PL Co.
Crier-McElroy 3	30	22,691	22,691	Humble PL Co.
J. T. McElroy 1	30	8,026		
J. T. McElroy 2	30	2,797		
J. T. McElroy 3, 4, 8	27	1,654		
J. T. McElroy 3	23	1,654		
J. T. McElroy 4	23	70,615		
J. T. McElroy 5	30	39,117		
J. T. McElroy 6	30	25,284		
J. T. McElroy 7	30	26,834	97,742	Gulf PL Co.
J. T. McElroy 9	5	4,649	81,846	Humble PL Co.
J. T. McElroy-B 1	16	1,655	1,394	Gulf PL Co.
State-Lasseter 1,2	30	61,781		
State-Lasseter 3, 4, 7	30	26,411	16,359	Humble PL Co.
State-Lasseter 5, 6	11	3,946	74,900	Gulf PL Co.
Gulf total		308,417		
Humble Oil & Refining:				
University 1	30			
University 2	30			
University 3	30			
University 4	27			
University 5	21			
University 7	18			
University 8	9	217,604	146,790	Humble PL Co.
Independent Oil & Gas Co.:				
Moore-B 1	8	256	198	Southern PL Co.
University-A 1	16	24,582	20,229	Southern PL Co.
McMon Oil Co.:				
Hughes 1	30			
Hughes 2	19	4,326	4,016	Humble PL Co.
Magnolia and others:				
Church-University 1, 2				
Church-University 3, 4	23	2,527	805	Humble PL Co.
Magnolia Petroleum Co.:				
Hardwick 1	16	360		
O'Keefe 1, 2, 3, 4, 5	30	11,190	6,802	Humble PL Co.
Lassiter 1, 2	27	1,796	1,145	Humble PL Co.
Magnolia total (bbls.)		15,873		
Marland Oil Co.:				
Benton Land Co. 1	1	3		
Cowden-A 1	30	2,025		
Cowden-A 2	30	270		
Cowden-A 3	27	745		
Cowden-B 1	30	3,964		
Durham 1	3	43		Abandoned.
Durham 2	26	615		
Hughes-B 1	4	28		
Hughes-C 1	30	569		
Hughes-C 2	30	799		
Hughes-C 3	30	695		
Hughes-D 1	30	11,064		
Hughes-D 2	30	6,404		
Hughes-D 3	30	6,207		
Hughes-D 4	30	869		
Hughes-D 5	30	1,935		
Hughes-D 6	30	1,730		
Hughes-Gibbs 1	30	552		
Hughes-Gibbs 2	30	453		
Hughes-Keith 1	28	454		
Hughes-Keith 2	30	5,565		
Hughes-Keith 3	30	1,014		
Gibbs 2	30	6,702		
Shirley 1	30	9,833		
Shirley 2	30	415		
Shirley 3	30	4,758		
Shirley 4	30	762		
Shirley 1-A	30	610	66,425	Marland PL Co.
Marland total (bbls.)		69,064		
Prairie Oil & Gas Co.:				
University-A 1 to 6	30	13,794	13,574	Humble PL Co.
Lassiter University 1	13	1,843	1,836	Humble PL Co.
Simms-Atlantic:				
University-A 1	30	8,380		
University-A 2	27	42,535		
University-A 3	27	31,729		
University-A 4	24	20,840		
University-A 5	11	4,234		
University-A 6	2	700		
University-A 7	5	5,518	122,762	Humble PL Co.
University-B 1	9	823	2,773	Humble PL Co.
University-C 1	9	7,785	12,747	Humble PL Co.
University-D 1	17	1,821	19,197	Humble PL Co.
Simms-Atlantic total (bbls.)		124,365		
Stedham-Thrasher, University 1	25	375	395	Humble PL Co.
Tidal Oil Co.:				Humble PL Co.
University-B 1, 2	30	2,339	312	(2,078 Sou. PL)
University-C 1	25	1,657	395	Humble PL Co.
			1,335	Southern PL Co.
University-E 1	28	1,329	1,106	Southern PL Co.
University-F 1, 3	10	25,738		
University 1	19	43,950		
University 2	24	28,569		
University 4	11	16,642	131,033	Southern PL Co.
Tidal Oil Co. total (bbls.)		120,224		
The Texas Company, King (see Upton County.)				
Crockett County				
Cromwell and others, Powell 1, 2, 3, 5	30	4,528	4,422	Marland PL Co.
Gulf Production Co.:				
Powell-A-A 1	Off		197	Humble PL Co.
Powell-A-B 2 to 5	30	1,497	1,733	Humble PL Co.
Powell-D 1	30	2,473	1,830	Humble PL Co.
Gulf total (bbls.)		3,970		
J. K. Hughes Development Co.:				
Powell-A 1, 2, 3	30	5,637	5,690	Humble PL Co.
Powell-B 1	30	1,157	405	Humble PL Co.
Humble-Marland:				
Powell 1	30			
Powell 2, 3	30			
Powell 4				Abandoned
Powell 5 to 10	30	9,427	3,419	Humble PL Co.
			5,753	Marland PL Co.
Powell-B 1	30	1,046	537	Humble PL Co.
Humble Oil & Refining Co., Sarg 1	30	260	242	Humble PL Co.
Republic Prod., Powell 1 and 2	30	6,363	6,758	Humble PL Co.
Roxana Petroleum Corp., Powell 1	30	595	357	Marland PL Co.
Ector County				
Cosden, J. S., Inc., Connell 1-A	30	552	None	5 bbls. water daily
Glasscock County				
Texon-Marland, Settles 1	17	970	None	190 bbls. water

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Greenspon's casing, and ODEE pipe for gas lines, are likewise guaranteed! Ready at our yards in sizes to suit your needs, for immediate shipment.

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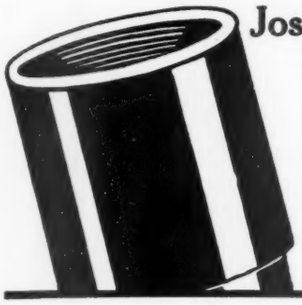


Jos. GREENSPON'S Sons Iron & Steel Co.

SAINT LOUIS
Tulsa, Oklahoma
Fort Worth, Tex.

TRIBLOC *Chain Hoists*

Costs more to make costs less to use

This hand chain Guide is always painted **GREEN**

IT is always painted GREEN for two reasons.

One is that it identifies a chain hoist unequaled for long, hard service on almost any sort of a job. Another reason is that it indicates what is probably the most important protective feature of any chain hoist made—the LOOP HAND CHAIN GUIDE.

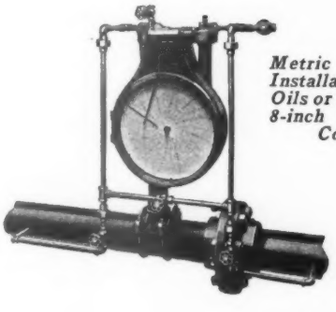
This Guide, owned and used by ourselves and licensed for use on but few other chain hoists, is the only Guide that absolutely controls the hand chain while in motion. It prevents the hand chain from buckling or "gagging" in the guide—whether operated at the point of hoisting or at an angle from the hoist.

It has many other advantages about which we should like to tell you. Send for Catalog 7-B.

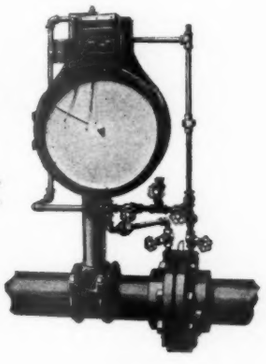
FORD CHAIN BLOCK COMPANY
Second and Diamond Sts., Philadelphia, Pa.

Company, Lease, Well No.—	Days Produced	Total Gross Production	Total Pipe Line Runs*	
Howard County				
Choate-Henshaw, O'Daniels 1	8	335	None	Lease storage
Comet Petroleum Co., Clay 1	28	281	None	Lease storage
Dixie Oil Co., Clay 1	9	155	None	
Gulf Production Co., Chalk 2	30	962	None	
Humble Oil & Refining Co., Douthit 1, 2	30	1,958	1,363	Marland PL Co
Lockhart & Co.:				
Chalk 1	28	1,079		
Chalk 2	21	709		
Chalk-A 1	30	1,211		
Chalk 2	17	223	1,646	Marland PL Co
Magnolia Petroleum Co.:				
G. O. Chalk 1	30	990		
G. O. Chalk 2	29	1,211		
G. O. Chalk 3	30	2,282		
G. O. Chalk 4	30	1,511		
Mary Chalk 1	30	924		
Mary Chalk 2	30	1,245		
Mary Chalk 3	30	2,282		
Mary Chalk 4	26	1,274		
Owen-Chalk 1	29	374		
Owen-Chalk 2	30	590		
Owen-Chalk 3	30	1,300		
Owen-Chalk 4	30	1,492		
Owen-Chalk 6	30	752		
Owen-Chalk 7	30	866		
Owen-Chalk 8	27	1,985		
Hyman-Chalk 1	25	590		
Hyman-Chalk 2	29	222		
Kelly-Chalk 1	2	31		
Sloan-Chalk 1	28	1,410		
Sarah-Hyman 1	30	744		
Sarah-Hyman 2	30	1,050		
Magnolia Pet. Co. total (bbls.)		20,818	20,818	Magnolia PL Co.
Marland Oil Co.:				
Clay 1	29	5,613		
Clay 2	12	965		
Clay 3	8	288		
Clay 4	3	325		
Clay 5	11	287		
Clay-A 1	28	2,055		
Clay-A 2	30	1,877		
Clay-A 3	18	916		
Clay-A 4	7	663		
Clay-A 5	1	66		
Clay-B 1	29	1,155		
Chalk 1	29	1,201		
Chalk 2	29	1,203		
Chalk 3	28	1,071		
Chalk 4	29	1,186		
Chalk 5	27	1,008		
Chalk 6	28	877		
Chalk 7	29	1,257		
Chalk 8	28	1,258		
Chalk 10	15	328		
Chalk 11	29	1,322		
Chalk-A 1	30	2,102		
Chalk-A 2	29	805		
Chalk-A 3	29	1,113		
Chalk-A 4	30	1,366		
Chalk-A 5				
Chalk-A 6	16	198		
Chalk-A 7	20	1,212		
Chalk-A 8	10	658		
Chalk-B 1	30	1,635		
Chalk-C 1	30	1,802		
Chalk-D 1	30	1,337		
Chalk-E 1	30	5,248	38,287	Marland PL Co.
Marland Oil Co. total (bbls.)		41,697		
Merrick-Bristow:				
Hooks 1	30	1,200		Marland PL Co.
Hooks 2	30	900	2,285	Marland PL Co.
				Marland PL Co.
Reeves-Apperman, Clay 1 and 2	30	1,977	880	(No. 2 on 11 days)
Jones County				
Atlantic O. P. Co., Howell 1	30	2,035	1,442	Phil-Tex PL Co.
Marland Oil Co.:				
Mason 1	30	2,099		
Mason 2	30	2,020		
Mason 3	30	17,875	21,531	
Marland Oil Co. total		21,994		
Midwest Exp. Co., Thornton 1 to 4	30	13,251	13,121	Phil-Tex PL Co.
Phillips Petroleum Co.:				
Beasley 1	30	3,383	2,631	Phil-Tex PL Co.
Mason 1, 2, 3	30	5,713	5,962	
Tessie 1, 2, 3	30	13,062	12,309	
Winters 1, 2	30	11,799	10,579	
Phillips Petroleum Co. total		33,957		
Loving County				
Lockhart & Co., Allen 1	30	600	None	Lease storage
P-V Petroleum Co., Wheat 1	Off			Drilling deeper
Mitchell County				
Atlantic Oil Prod. Co., Ricker 1 to 7	30	8,356	8,355	Col-Tex Refining Co.
Eastland Oil Co.:				
Adams 1	30	1,208		
Clark 1	30	191		
Elder 1	30	678		
Handley 1	30	373		
Keynard 1 to 4	30	2,596	5,046	
Eastland Oil Co. total		5,046		
Magnolia Petroleum Co.:				
C. M. Adams 1	30	1,045		
C. M. Adams 2	30	1,117		
C. M. Adams 3	30	1,448		
C. M. Adams 4	30	1,069		
C. M. Adams 5	30	1,510		
C. M. Adams 6	29	1,565		
C. M. Adams 7	30	1,543		
F. Adams 1	30	1,050		
F. Adams 2	30	1,495		
F. Adams 3	30	2,120		
Badgett 1	30	277		
Coleman 1	30	150		
M. Foster 1	29	860		
M. Foster 2	30	392		
M. Foster 3	30	1,492		
O'Neal 1	30	300		
A. P. Watson 1	30	547		
W. W. Watson 1	30	729		
G. W. Womack 1	30	522	19,231	Col-Tex Refining Co.
Magnolia Petroleum Co. total		19,231		
Carey and others, Morrison 1	30	720	720	
The California Co.:				
Abrams (1) 1	30	661		
Abrams (1) 2	30	572		
Abrams (1) 3	16	216		
Abrams (1) 4	30	1,052		
Abrams (1) 5	30	368		
Abrams (1) 6	30	834		
Abrams (1) 7	30	580		
Abrams (1) 8	30	803		
Abrams (1) 9	30	642		
Abrams (1) 10	29	1,174	6,831	Col-Tex Refining Co.
Adams (2) 1	30	1,771		
Adams (2) 2	30	968		
Adams (2) 3	30	1,147		
Adams (2) 4	11	678		
Adams (2) 5	30	2,141	6,804	Col-Tex Refining Co.
Adams (3) 1	30	1,252		

They are Dependable Always



Metric Orifice Meter Installation for Light Oils or Water—2½ and 8-inch Pipe Diameter Connections.



Metric Orifice Meter Installation for Gas—Flange Connections.

WESTCOTT & GREIS, *Inc.*

Sales Service

DALLAS TULSA LOS ANGELES

Throughout the range of service variations in oil and gas measurement the orifice meter makes extremely accurate records.

Write for Literature

METRIC METAL WORKS

of the American Meter Company-Inc.

ERIE - PENNSYLVANIA - U-S-A

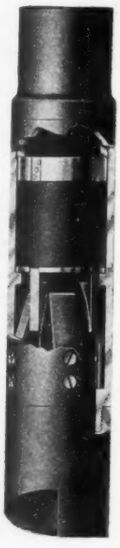
Metric Orifice Meters

PUT SURE IN MEA-SURE-MENT

-be prepared

have a BAASH-ROSS PACKING OVERSHOT

In the derrick when trouble comes



The Baash-Ross Packing Overshot is an invaluable tool when that unexpected emergency arises. Keep it in the rig, for it is a most efficient overshot and is invaluable as a fishing tool. It will catch the drill pipe in the same manner as the usual type overshot, and in addition packs-off between the fishing string and the "fish," making it possible to establish circulation and pull on the "fish" at the same time. It insures a successful fishing job under difficult complications. Write for descriptive circular.

Always bear in mind that Baash-Ross are on the job day and night - - - every day - - - to serve the petroleum industry. Field service shops at strategic points.

BAASH-ROSS TOOL COMPANY
LOS ANGELES CALIFORNIA
BRANCHES
Long Beach — Brea — Ventura — Taft — Rosecrans
Houston, Texas

UNVARYING

The unvarying quality and performance of Diamond "H" Bit and Jar Steel has solved the steel problems for a number of drilling tool manufacturers. It will pay you to investigate it.

DIAMOND—"H"— Bit and Jar Steel

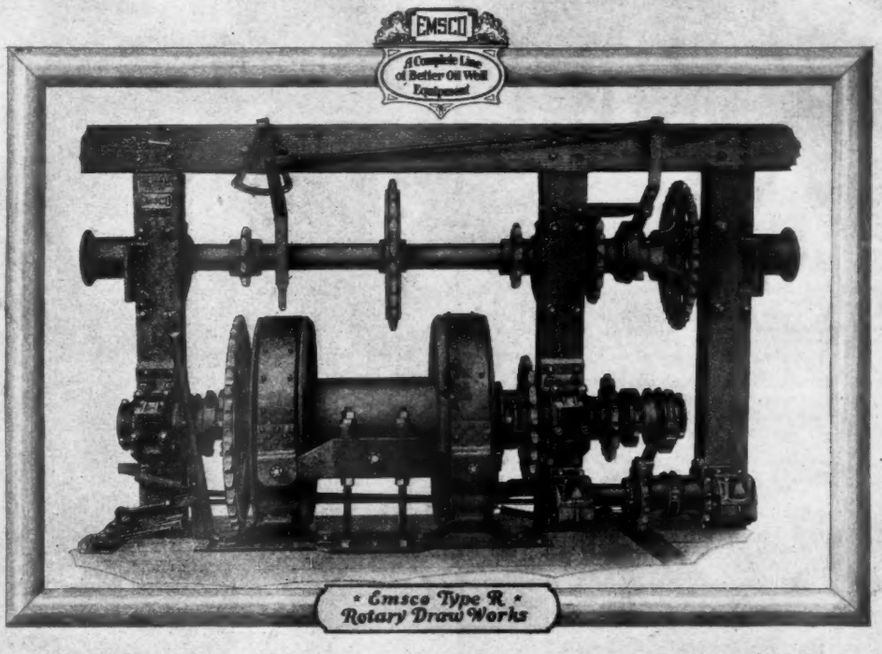
Is forged from bottom poured open hearth ingots by specialized workmen. Compare results in the drilling field.

HEPPENSTALL Forge & Knife Co.

Pittsburgh, Penna.

Fort Worth — Texas Office
1415 F. & M. Bank Building

Company, Lease, Well No.—	Days Produced	Total Gross Production	Total Pipe Line Runs*	
Austin (3) 2	30	1,405	2,035	Col-Tex Refining Co.
Butler (1) 1	30	298		
Butler (1) 2	30	341	438	
Clark (2) 1	30	1,001	836	
Elder (1) 1	30	467	418	
Elder (2) 1	30	898		
Elder (2) 2	30	989		
Elder (2) 3	30	1,504		
Elder (2) 4	30	1,133		
Elder (2) 5	28	1,601	6,553	
W. L. Foster (1) 1	30	747		
W. L. Foster (1) 2	30	2,270	5,229	
LeSure 1	30	598		
LeSure 2	30	381	827	
A. L. Miller 1	29	604		
A. L. Miller 2	28	397		
A. L. Miller 3	30	851		
A. L. Miller 4	30	624		
A. L. Miller 5	28	461		
A. L. Miller 6	30	744	3,590	Col-Tex Refining Co.
H. C. Miller 1	30	1,320		
H. C. Miller 3	27	251		
H. C. Miller 4	29	1,117		
H. C. Miller 5	30	613		
H. C. Miller 6	30	635		
H. C. Miller 7	30	1,523		
H. C. Miller 8	30	2,167	7,173	
Petitfils (1) 1	30	1,507		
Petitfils (1) 2	30	2,175		
Petitfils (1) 3	30	2,434	6,198	Col-Tex Refining Co.
Petitfils (2) 1	30	822		
Petitfils (2) 2	30	1,128		
Petitfils (2) 3	12	775	2,478	Col-Tex Refining Co.
Mo. State Life 1	30	894	848	Col-Tex Refining Co.
Morrison (1) 2	30	876		
Morrison (2) 3	29	144		
Morrison (2) 4	30	678		
Morrison (2) 5	25	405		
Morrison (2) 6	18	309		
Morrison (2) 7	30	645		
Morrison (2) 8	30	836		
Morrison (2) 9	30	691		
Morrison (2) 10	30	909		
Morrison (2) 11	30	385		
Morrison (2) 12	30	712		
Morrison (2) 13	30	954		
Morrison (2) 14	30	719		
Morrison (2) 15	30	903		
Morrison (2) 16	30	240		
Morrison (2) 17	30	1,542		
Morrison (2) 18	30	623	10,839	Col-Tex Refining Co.
Handley (1) 1	30	1,613		
Handley (1) 2	30	1,309		
Handley (1) 3	30	2,056	5,336	Col-Tex Refining Co.
Smartt 1	30	762		
Smartt 2	30	605		
Smartt 3	30	467		
Smartt 4	29	439		
Smartt 5	29	372		
Smartt 6	29	551		
Smartt 7	17	272		
Swenson 1	30	984		Col-Tex Refining Co.
Womack 1	30	1,283		
Womack 2	29	1,042		
Womack 3	30	1,263		
Womack 4	30	862		
Womack 5	30	1,631		
The California Co.:				
Womack 6	30	1,309		
Womack 7	30	1,566	9,099	Col-Tex Refining Co.
The California Co. total		*80,112		
Tidal Oil Co.:				
Badgett 1	30	473	None	
Handley 1	30	512		
Pecos County				
Mid-Kansas and Transcontinental:				
Yates-A 1, 2, 3	30	44,025	95,612	Illinois PL Co.
Yates-B 1				
Texon O. & L. Gr. 1, Yates	30	540		Lease storage
Reagan County				
Big Lake Oil Co., University 108	30	578,543	590,742	Reagan Co. Pur.
Texos O. & L. Group 1, University 76	30	235,386	227,612	Reagan Co. Pur.
Scurry County				
Northwest Co:				
Newman 1	30	240	None	Lease storage
Moore 1 and 2	30	570	None	Lease storage
Welburn 1	30	600	None	Lease storage
Stinson 1	30	300	None	Lease storage
Upton County				
Amerada Pet. Corp.:				
Hughes 1	30	150		
Hughes 2	30	5,250		
Hughes 3	30	2,250		
Hughes 4	30	2,250		
Hughes 5	30	2,490		
Hughes 6	5	150	12,599	Marland PL Co.
Amerada Pet. Corp. total		12,990		
Atlantic O. P. Co., Sherk 1	30	1,139	1,242	Humble PL Co.
Bryant and others, Baker 1	30	1,600	1,373	Humble PL Co.
Dixie Oil Co.:				
Burleson 1 and 2	30	114		
Burleson 3 and 4	30	97		
Burleson 5, 6, 8	30	575		
Burleson 7, 13	30	1,399		
Burleson 11, 14, 20	30	2,627		
Burleson 15, 16, 17 and 18, 22, 23	30	40,959	87,985	(No. 23 on 20 days) Southern PL Co.
Hughes 1, 2, 3, 7, 12	30	3,478		
Hughes 5, 8, 9, 10, 11	30	6,375	15,385	Southern PL Co.
Dixie Oil Co. total		98,233		
Gulf Production Co.:				
Baker 1	30	175		
Baker-A 1	30	569		
Baker-A 2	30	1,358	None	
Estep 1 and 2	13	4,485	4,153	Humble PL Co.
Hughes 1, 2, 3, 4	30	5,604	4,695	Humble PL Co.
Lane-C 1	30	4,634	2,381	Marland PL Co.
		4,316		Humble PL Co.
Sherk 1	30	1,812	1,784	Humble PL Co.
Gulf Production Co. total		18,462		
Humble O. & R. Co.:				
Burleson 1 to 4	30	1,429	1,559	Humble PL Co.
Ricker 1 to 4	30	3,305	3,865	Humble PL Co.
Independent Oil & Gas Co.:				
Burleson 1 to 7	23	1,659	2,411	Southern PL Co.
Taylor 1, 2, 3, 4, 5, 6, 9, 10, 13, 48, 60, 73	23	11,029	14,008	Southern PL Co.
Woodley 1 to 8, 12, 13, 14	26	18,234	23,887	Southern PL Co.
Independent Oil & Gas Co. total		30,922		
McMan Oil & Gas Co.:				Marland PL Co.
Baker-A 1	30	133	128	
Marland Oil Co.:				
Baker-A 1	30	800		
Burleson 2	2	30		Abandoned
Burleson 4	30	290		
Burleson 5	30	1,000		
Burleson 6	30	1,945		
Burleson 7	30	2,235		
Burleson 8	30	1,753		
Burleson 9	30	285		



A Master Achievement in Modern Drilling Equipment

Combining new and essential improvements and desirable standard features in strict accordance with service requirements, this new Emsco Draw Works is a master achievement of modern engineering.

DESIGNED to eliminate the angle drive from line shaft to rotary machine, and kinking shafts.

Both line and drum shafts are chrome nickel steel forgings; the line shaft 6½" diameter; the drum shaft 8" diameter at center, 7¾" at low speed clutch and sprocket, and full 7" at bearings.

Emsco Non-Bursting forged steel brake rims held securely between two cast steel flanges, with rivets in double shear.

Chain drive from countershaft mounted between posts 2 and 3, close to floor. The two A.P.I. countershaft sprockets are cast integral, of special Manganese steel; mounted on two sets of 14"x1¼" roller bearings, in bronze cages, rotating on 6" hardened and ground shaft. Alemite lubrication.

Steel boxes; Manganese steel cathead; Steel Sprockets with A. P. I. compensating teeth; Foot operated low, second and third speed clutches. Emsco solid woven 1"x9¼" brake lining.

Designed for all depths attainable with present drill pipe and rotary equipment.

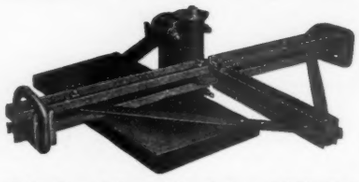
Emsco Type "RL" Draw Works of exactly similar construction throughout, designed for depths to 5,000 feet, now being built for early delivery.

EMSCO Steel Equipped Wells Are Safe

EMSCO
Derrick & Equipment Company
Los Angeles
Houston
California
Texas
New York Office: 150 Broadway

EMSCO Steel Equipped Wells Are Safe

LIGHTNING
OIL FIELD SUPPLIES
PUMPING POWERS, JACKS, STUFFING BOXES, ETC.



Stuffing Box

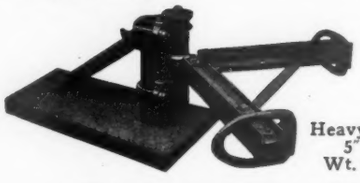
The lightning T. S. Lubricator Stuffing Box satisfies under the most adverse conditions.

Lightning Adjustable Swing 180° Universal— 2 Sizes. Standard Pattern, 4″ Channel Leg, Wt. 450 Lbs.

First view shows swing used as a 180° pull back. Second view is with its legs closed to 90° and used as a common swing. The legs may be closed still further, if desired. This swing will handle any angularity of rod lines encountered.

Standard equipment with the major producers. Proven in actual service to be dependable, lasting, and adjustable in the angularity of the legs, a feature found only on the Lightning Swings.

Manufacturers of Pumping Powers, Geared and Band Wheel; Steel Grips, Polished Rod Rotators, Casing heads, Polish Rod Clamps, Rod Racks, Balanced Pumping Jacks, Centrifugal Pumps, Beam Yoke Castings for Wire Line Hangers, Beam Hangers, Sucker Rod Spiders, High Speed Elevators, Stuffing Boxes, Hooks and Grips.



Heavy Pattern 5″ Leg. Wt. 600 lbs.

Write for showing of full line.

Distributors:

Grover C. Johnson, Wichita Falls, Texas
B. V. Emery & Co., Tulsa, Oklahoma
Mid-Continent Supply Co., Fort Worth, Texas
Harry B. Shine, Houston, Texas
All Republic Supply Stores
All Putnam Supply Co. Stores
All International Supply Co. Stores

KANSAS CITY HAY PRESS CO.
Oil Field Supplies Kansas City, Mo.

There is a difference in Metallic-Asbestos Gaskets. A "Double Jacket" should have TWO sheets of metal surrounding the asbestos.

A "Single Jacket" costs less to make and delivers one-half the service.

When you order "Double Jacket" be sure you get it—and not a "Single Jacket" with an "Inlay Strip".

McKim Gaskets

Catalogue No. 17 on Request

McCORD RADIATOR & MFG. CO
Gasket Division
DETROIT, MICHIGAN

Manufacturers of McCord Force Feed Lubricators

Company, Lease, Well No.—	Days Produced	Total Gross Production	Total Pipe Line Runs*	
Burleson 10	30	913		
Burleson 11	30	444		
Burleson 12	30	1,395		
Burleson 13	30	705		
Burleson 14	30	423		
Burleson 15	30	720		
Burleson 16	30	1,445		
Burleson 17	30	810		
Burleson 18	30	1,140		
Burleson 19	30	440		
Burleson 20	30	400		
Burleson 21	30	280		
Burleson 22	30	1,930		
Burleson 23	30	3,880		
Burleson 24	30	1,040		
Burleson 25	30	925		
Burleson 26	30	405		
Burleson 27	30	3,610		
Burleson 28	30	605		
Burleson 29	30	610		
Burleson 30	30	680		
Burleson 31	30	695		
Burleson 32	30	453		
Burleson 33	30	805	380	Humble PL Co.
Burleson-A 1	29	263		Remainder Marland PL Co.
Burleson-A 2	3	15		Abandoned
Burleson-A 3	2	10		
Burleson-B 1	19	203		
Estep 1	24	287		
Estep 2	9	100		
Estep 3	30	1,314		
Estep 5	18	419		
Estep 6	27	8,551		
Estep 7	11	114		
Estep 9	29	6,230		
Estep 12	1	5		
Powell 1	30	3,474		
Powell 2	30	2,605		
Powell 3	30	3,225		
Powell 4	30	2,465		
Sanger 1	30	303		
Sanger 2	30	151		
Sanger 3	30	177		
Sanger 4	30	181		
Sanger 5	30	35		
Sanger 6	30	5,117		
Sanger 7	30	300		
Sanger 8	30	875		
Sanger 9	30	1,640		
Sanger 10	30	242		
Sanger 11	30	855		
Sanger 12	30	790		
Sanger 13	30	825		
Sanger 14	30	450		
Sanger 15	30	975		
Sanger 16	30	450		
Sanger 17	30	860		
Sanger 18	30	1,845		
Sanger 19	30	400		
Sanger 20	30	316	69,929	Marland PL Co.
Marland Oil Co. total		77,519		
Prairie Oil & Gas Co.:				
Lane 1 to 4	30	21,403	7,011	Humble PL Co.
A. Lane-C 1	12	4,670	4,381	Humble PL Co.
Prairie Oil & Gas Co. total		26,073		
Republic Production Co.:				
Baker 1 and 2	30	286		
Baker 3 and 4	30	1,478		
Baker 5 and 6	30	3,658	4,430	Marland PL Co.
Roxana Petroleum Corp.:				
Bowen 1	30	2,270		
Bowen 2	30	1,884		(148 bbls. b.s. and water)
Bowen 3	30	2,994		
Bowen 4	30	5,175		
Bowen 5	30	8,387		
Bowen 7	30	3,533		(1,145 bbls. b.s. and water)
Bowen 6	30	10,105		(1,298 bbls. b.s. and water)
Bowen 8	27	11,709		
Bowen 9	30	3,157		
Bowen 10	30	3,916		
Bowen 11	30	6,632		
Bowen 12	30	7,221		
Bowen 13	30	16,089		
Bowen 14	29	6,868		
Bowen 15	18	1,148		
Bowen 17	29	9,719		
Bowen 19	13	1,110		
Bowen 20	22	7,240		
Bowen 21	11	869		
Bowen 22	13	2,750		
Bowen 23	1	343	109,759	Roxana PL Dept.
Estep 1	30	806		
Estep 2	30	863		(Estep No. 2 9,659 b.s. and water) (Estep No. 3 6,572 b.s. and water)
Estep 3	30	1,137	2,436	Roxana PL Dept.
Hughes 1	26	654		(146 b.s. and water)
Hughes 2	30	2,066		(3,807 b.s. and water
Hughes 4	30	2,610		(7,218 b.s. and water)
Hughes 5	10	88		(1,557 b.s. and water)
Hughes 6	11	167		(4,374 b.s. and water)
Hughes 7	17	851		(1,410 b.s. and water)
Hughes 8	30	10,171		(10 b.s. and water)
Hughes 9	29	2,160		(17,425 b.s. and wtr.)
Hughes 10	30	1,385		Roxana PL Dept.
Roxana Petroleum Corp. total		135,618		
Simms Oil Co.:				
Shirley 1	25	2,518		
Shirley 2	25	922		
Shirley 3	21	699	3,679	Humble PL Co.
Snow-McSweeney, Hughes 1	30	3,710	3,691	Humble PL Co.
Sun Oil Co.:				
Baker 1 and 2	28	3,270	3,246	Humble PL Co.
Burleson 2 to 8	27	7,862	6,832	Humble PL Co.
T. P. C. & O. Co.:				
Lane-A 1 to 7	30	71,835	66,244	Humble (No. 7 on 11 days)
Lane-B 1	29	1,960	2,160	Humble PL Co.
Sherk 1 to 5	30	4,623	6,225	Humble PL Co.
T. P. Coal & Oil Co. total (bbls.)		78,814		
The Texas Company:				
King 1	30	654		
King 2	30	752		
King 3	30	915		
King 4	29	765		
King 5	30	2,460		
King 6	30	745		
King 7	30	1,269		
King 8	30	752		
King 10	30	587		
King 11	30	532		
King 12	30	950		
King 13	30	2,549		
King 14	30	348		
King 16	30	2,654		
King 17	30	533		
King 18	30	2,720		

HERE is wire rope that resists unstranding—the ends require no seizing—that is easier to handle, lasts longer and lowers operating and maintenance costs.

Tru-Lay Brand, because of many advantages due to its exclusive preformed construction, is being widely adopted for oil field use.

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Marion Machine and Foundry Co. and Branches, Marion, Ind.
Grinnell Company of the Pacific and Branches, Los Angeles, Calif.

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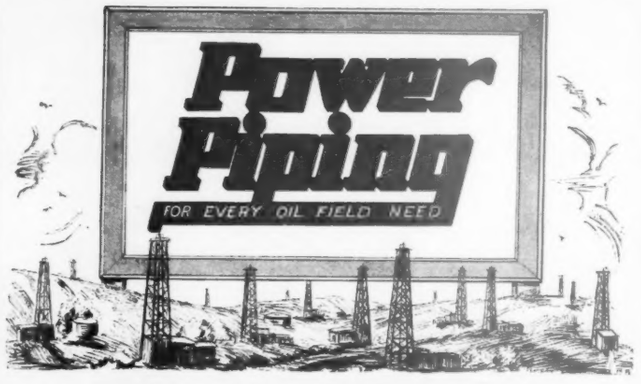

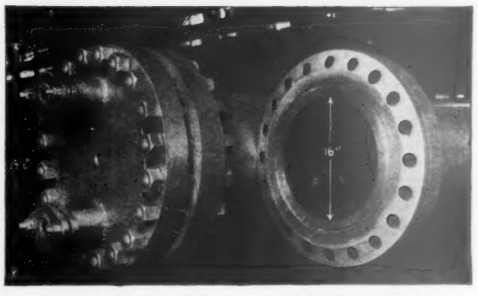

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Established 1886

Canadian Plant:
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1260 Holden Ave.,
DETROIT, MICH.

Company, Lease, Well No.—	Days Produced	Total Gross Production	Total Pipe Line Runs*	
King 20	30	4,331		
King 21	30	2,408		
King 22	30	2,408		
King 23	13	300	27,941	Southern PL Co.
King 23	11	228		Tex. Tank Cars
Total		28,251		
The Texas Company:				
Burleson 1	29	746		
Burleson 2	30	300		
Burleson 3	30	384		
Burleson 4	30	379	1,726	Marland PL Co.
Total		1,809		
U. L. Co.-F 1	30	220	194	Southern PL Co.
The Texas Co. grand total (bbls.)		30,288		
Texon Gr. One, Sherk 1	30	645	629	Humble PL Co.
Wentz Oil Corp., Sherk 1, 2, 3	30	4,536	4,256	Humble PL Co.
Winkler County				
Gulf Prod. Co., Hendricks 1	30	11,298	12,000	Southern PL Co.
Independent O. & G. Co., Hendricks 1. No gauge; making gas, spray. oil.				
Sou. Crude O. P. Co.:				
Hendricks 1-A-1	30	10,800	12,000	Southern PL Co.
Hendricks 1-C-1	20	13,269	12,000	Southern PL Co. (Pinched 5 days)

Grand total gross production west Texas, April, 1927 ..... 2,965,598 bbls.
Grand total pipe line runs west Texas, April, 1927 ..... 2,924,047 bbls.

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Gray County

Atlantic Oil Producing Co. and others' No. 1 Combs & Worley, 330 feet south and east of NW cor. NE of Section 39, Block 3, I. & G. N. Survey. Empire Gas & Fuel Co.'s No. 1 J. A. Hood, 330 feet north and east of SW cor. SE of Section 33, Block 3, I. & G. N. Survey; No. 1 J. M. Saunders, 330 feet north and east of SW cor. of SE, Section 40, Block 3, same survey. Petroleum Exploration Co.'s No. 1 L. C. McConnell, 330 feet north and west of SE cor. NW of Section 174, Block 3, same survey. Roxana Petroleum Corp.'s No. 1 Combs & Worley, 330 feet south and west of NE cor. NW of Section 39, Block 3, same survey; No. 1 R. S. McConnell, 330 feet south and west of NE cor. of the E half SW of Section 174, Block 3, same survey. Sullivan and others' No. 1 Sullivan and others, 305 feet south and 295 feet east of NW cor. of the E half of SW, Section 1, Block 1, A. C. H. & B. Survey.

Gray County

Magnolia Petroleum Co.'s No. 1 J. B. Barrett, 330 feet south and east of NW cor. of Section 111, Block 3, I. & G. N. Survey; No. 18 Merton Brothers, 330 feet south and 990 feet west of NE cor. of the S half of Section 82, Block 3, same survey. Empire Gas & Fuel Co.'s No. 1 J. E. Cubine, 330 feet south and west of NE cor. NW Section 36, Block 25, H. & G. N. Survey.

Hutchinson County

Anderson & Pritchard's No. 2 William Yake, 330 feet north and east of SW cor. NW, Section 1, Block J, H. & G. N. Survey. McMan Oil & Gas Co.'s No. 3 E. Cockrell-Martin, 320 feet south and west of NE cor. of the S half of NW, Section 3, Block 3-B, D. & S. E. Survey. Phillips Petroleum Co.'s No. 1 J. M. Sanford School Land, 265 feet south and 330 feet west of NE cor. of east 40 acres of north 80 acres of south 320 acres of Section 83, Block 46, H. & T. C. Survey. Roxana Petroleum Corp.'s No. 1 E. Cockrell, 220 feet north and 330 feet east of SW cor. of the N half SE of Section 3, Block 3-B, D. & S. E. Survey.

Moore County

Prairie Oil & Gas Co.'s No. 2 O. E. Cober, 2,305 feet south and 990 feet east of NW cor. of O. E. Cober Survey, No. 16, Block 1-M.

Wheeler County

Gibson Oil Corp.'s No. 5 W. E. Bentley, 330 feet north and west of SE cor. SW NW of Section 42, Block 24, H. & G. N. Survey.

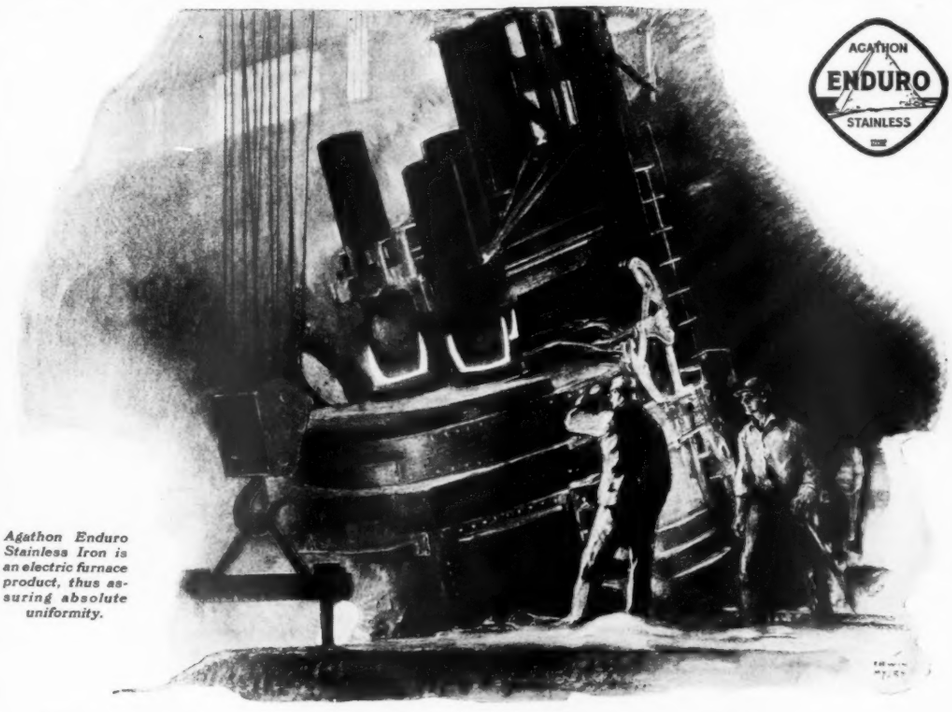
Canadian River Oil Co.'s No. 1 J. M. Sanford, 330 feet south and east of NW cor. of north 80 acres of south 160 acres of Section 81, Block 46, H. & T. C. Survey. Cockrell-McIlroy Oil Co.'s No. 3 E. Cockrell, 175 feet south and 330 feet east of NW cor. of south 35 acres of Section 1, Block 3-B, D. & S. E. Survey; No. 1 E. Cockrell-K, 330 feet north and west of SE cor. of SE Section 1, Block Y. McIlroy and others' No. 1 E. Cockrell, 200 feet south and 285 feet west of NE cor. of south 125 acres of Section 4, Block 3-B, D. & S. E. Survey; No. 2, 600 feet south and 285 feet west of NE cor. of south 125 acres of the same section; No. 11, 685 feet north and 295 feet west of SE cor. of north 80 acres of the same section; No. 1 E. Cockrell-B, 330 feet north and west of SE cor. of E half of SE Section 2, Block Y. McMan Oil & Gas Co.'s No. 2 E. Cockrell-Martin, 220 feet north and 285 feet east of SW cor. of the E half of NW of Section 3, Block 3-B, D. & S. E. Survey. Phillips Petroleum Co.'s No. 17 J. J. Perkins-Martin, 990 feet south and 2,325 feet east of NW cor. of SW of Section 1, Block XO2, H. & O. B. Survey; No. 18, 990 feet south and 1,660 feet east of NW cor. SW of the same section; No. 11 J. A. Whittenburg-Tinnie, 2,610 feet south and 320 feet west of NE cor. of south 480 acres of Section 71, Block 46, H. & T. C. Survey. The Texas Company's No. 12 E. Cockrell, 330 feet south and west of NE cor. of the E half of NE Section 1, Block Y.

NORTH CENTRAL AND WEST TEXAS

Archer County

Atlantic Producing Co.'s No. 2 L. F. Wilson-D, 1,125 feet south and 150 feet east of NE cor. of Section 1, S. P. R. R. Survey, A-412, being south and east of NW cor. of north 30 acres of south 170 acres of D. L. & C. Survey, A-1,093; No. 3, 1,125 feet south and 450 feet east of NE cor. of Section 1, S. P. R. R. Survey, A-412, being 150 feet south and 450 feet east of NW cor. of north 30 acres of south 170 acres of the same survey. Continental Oil Co. and Perkins & Cullum's No. 3 L. F. Wilson, 490 feet north and 450 feet east of SW cor. SW SE of Lot 4, Section 114, A. T. N. C. L. Survey. Petroleum Producers Co.'s No. 8 J. H. Turbeville-C, 1,050 feet south and 150 feet east of NW cor. of Robert Carson Survey, No. 142. Royal Petroleum Co.'s No. 6 L. F. Wilson, 825 feet south and 450 feet east of NE cor. of Section 1, S. P. R. R. Survey, A-412, being 150 feet north and 450 feet east of SW cor. of north 40 acres of south 210 acres of D. L. & C. Survey, A-1,093. Allday Oil Co.'s No. 1 W. L. Andrews, 785 feet north and 1,235 feet east of SW cor. NW, Section 1,804, T. E. & L. Survey. Bridwell & Heydrick's No. 1 S. M. Cowan estate, 750 feet north and 150 feet west of SE cor. of the W half of Section 59, Jefferson County School Land, A-240. Consolidated Oil Co.'s No. 1 W. H. Thomas, 150 feet north and east of SW cor. of south 20 acres of Lot 1, North Subdivision of Nathan Thomas Survey, A-454; No. 1 Abercrombie & Taylor, 150 feet north and west of SE cor. NW of Section 12, Club Ranch Subdivision.

L. T. Burns' No. 1 L. W. McCrory-Trustee-D, 870 feet north and 150 feet east of SW cor. of the E half of Lot 2, Section 117, A. T. N. C. L. Survey.



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O&GJ 6-9 Gray

Kruger & Staley's No. 1 J. H. Turbeville, 450 feet south and 150 feet west of NE cor. of Robert Carson Survey, No. 146. Pace & Nelson Holding Co.'s No. 6 J. B. Miller-B, 450 feet north and 500 feet west of the N half of Lot 2, Section 21, A. T. N. C. L. Survey. Royal Petroleum Co.'s No. 5 L. F. Wilson, 825 feet south and 150 feet east of NE cor. of Section 1, S. P. R. R. Survey, A-412, and located in D. L. & C. Survey, A-1,093; No. 1 L. F. Wilson-C, 150 feet south and west of NE cor. of SW NE of Section 1, S. P. R. R. Survey, A-412. C. P. Burton's No. 1 Mrs. A. M. Campbell, 165 feet north and 150 feet east of SW cor. of Section 87, Club Ranch Subdivision. Kell & Kruger's No. 7 R. O. Prideaux, 750 feet north and 450 feet west of SE cor. of north 113 acres of J. I. Hond Survey, A-181. Park Petroleum, Inc.'s No. 2 H. O. Prideaux, 950 feet south and 1,150 feet east of NW cor. of H. O. Prideaux's 285-acre tract out of A. Rohus Survey, A-1,126; No. 3, 750 feet south and 950 feet east of NW cor. of H. O. Prideaux's same 285-acre tract; No. 4, 1,150 feet south and 1,350 feet east of NW cor. of H. O. Prideaux's same 285-acre tract. Western Oil Corp.'s No. 4 H. O. Prideaux, 150 feet north and 750 feet east of SW cor. of A. McMuller Survey, A-286. Wilson & Russell's No. 11 H. O. Prideaux, 750 feet south and 880 feet east of NW cor. of their 55-acre lease out of A. Rohus Survey, A-1,126.

Brown County

Mac T. Anderson and others' No. 1 Doctor Bowden, 150 feet south and west of NE cor. of west 13 acres of Harvey McPeter Survey, No. 25. Otto B. Bradford, No. 1 Susan Earp, 150 feet north and east of SW cor. of Susan Earp's 160-acre tract J. Castleberry Survey, No. 137. Gibson Oil Corp.'s No. 7 J. W. Shore, 750 feet south and 150 feet east of NW cor. of east 80 acres of north 160 acres of J. C. Ryan Survey, No. 635; No. 8, 1,050 feet south and 150 feet east of NW cor. of east 80 acres of north 160 acres of the same survey; No. 11, 180 feet south and 450 feet east of NW cor. of east 80 acres of north 160 acres of the same survey. J. K. Hughes' No. 14 J. W. Shore, 750 feet south and 150 feet west of NE cor. west 80 acres of north 160 acres of the same survey. Humble Oil & Refining Co.'s No. 16 Roy Hickman, 150 feet south and 1,930 feet west of NE cor. of their 160-acre lease out of Thomas Benson Survey, No. 783; No. 17, 1,175 feet south and 450 feet west of NE cor. of their 160-acre lease out of the same survey. McKanna and others' No. 15 J. W. Shore, 1,215 feet south and 450 feet west of NE cor. of their 70-acre lease out of C. S. Betts Survey, No. 625; No. 16, 1,485 feet south and 150 feet west of NE cor. of the same 70 acres; No. 17, 1,785 feet south and 150 feet west of NE cor. of the same 70-acre lease; No. 18, 1,515 feet south and 450 feet west of NE cor. of their same 70-acre lease; No. 19, 1,600 feet south and 150 feet east of NW cor. of their 17-acre lease. Root and others' No. 5 C. J. Pugh, 750 feet north and 150 feet west of SE cor. of their 15-acre lease out of W. N. Pugh Survey, A-761. Selby Oil & Gas Co.'s No. 2 H. J. Ellis, 150 feet south and 450 feet east of NW cor. of H. J. Ellis' 130-acre tract out of S. A. & M. G. Survey, No. 3, A-850. Sinclair Oil & Gas Co.'s No. 4 J. W. Shore, 150 feet south and east of NW cor. of north 80 acres of south 160 acres of J. C. Ryan Survey, No. 635. The Texas Company's No. 55 Mrs. R. M. Lowe, 150 feet north and 2,810 feet east of SW cor. of George Stubblefield Survey, No. 622; No. 65, 1,050 feet north and 150 feet east of SW cor. of the same survey; No. 66, 840 feet north and 535 feet east of SW cor. of the same survey; No. 67, 970 feet north and 900 feet east of SW cor. of George Stubblefield Survey, No. 622; No. 68, 970 feet north and 1,200 feet east of SW cor. of the same survey; No. 69, 970 feet north and 1,500 feet east of SW cor. of the same survey; No. 70, 970 feet north and 1,800 feet east of SW cor. of the same survey; No. 71, 970 feet north and 2,100 feet east of SW cor. of the same survey; No. 72, 970 feet north and 2,400 feet east of SW cor. of the same survey; No. 73, 970 feet north and 2,700 feet east of SW cor. of the same survey. Cranfill & Reynolds' No. 2 W. B. Davis, 200 feet south and 150 feet west of NE cor. of W. B. Davis' 200-acre tract out of Counsel E. Jackson Survey, No. 108.

Callahan County

Sikes and others' No. 1 B. W. Owen, 1,050 feet south and 450 feet west of NE cor. of Section 19, Deaf and Dumb Asylum Lands.

Coleman County

Brown & Co.'s No. 2 R. R. Powell, 155 feet south and west of NE cor. of R. R. Powell's 325-acre tract out of Moses Little Survey, No. 40. Roth & Faurot's No. 1 J. A. Lewis, 300 feet north and 990 feet west of SE cor. of J. A. Lewis' 135-acre tract out of Lot 3, Coleman County School Land, No. 57. Lee & Daniels' No. 1 Upton Henderson, 1,980 feet south and 4,620 feet west of NE cor. of W. Henderson's 1,090-acre tract out of Pleasant Young Survey, No. 494. Monroe Production Co.'s No. 1 Sealey & Smith, 1,980 feet south and 250 feet east of NW cor. of Section 13, Block 1, G. H. & H. Survey. Harris & Mitchell's No. 1 W. C. Norwood, 1,175 feet north and 1,980 feet east of SW cor. of Louis Julienne Survey, No. 234. Roscoe and others' No. 1 A. J. Standridge, 150 feet north and 1,170 feet east of SW cor. of L. M. Briddle Survey, No. 284.

Cooke County

Stroube & Stroube's No. 3 John Koelzer, 150 feet north and east of SW cor. of south 20 acres of east 70 acres of John Koelzer's 80-acre tract out of Section 13, Thomas Scott Survey, A-900.

Camp-Hedrick and Oil Operators Trust Co.'s No. 5 M. J. Kleiss, 150 feet south and 500 feet west of the most northerly NE cor. of M. J. Kleiss' 115-acre tract out of J. W. Littleton Survey, A-586. Fain-McGaha Oil Corp.'s No. 1 Pybus & Binford, 150 feet north and west of the most easterly SE cor. of S. E. Clement Survey, A-271. Oil Operators Trust Co.'s No. 4 Ben Luke, 150 feet north and 500 feet east of SW cor. of Block 88, town of Muenster. Pure Oil Co.'s No. 1 J. C. Embroy, 150 feet north and west of SE cor. of south 80 acres of J. C. Embry 160-acre tract out of T. J. Moss Survey, A-736.

Crane County

Independent Oil & Gas Co.'s No. 3 University Land-A, 990 feet south and 330 feet west of NE cor. of the E half of NW of Section 46, Block 30, University Land. Tidal Oil Co.'s No. 5 University Land-F, 1,650 feet south and 330 feet west of NE cor. of the E half of NE of Section 46, Block 30, University Land; No. 6, 990 feet south and 330 feet east of NW cor. of the E half of NE, Section 46, Block 30, University Land; No. 2 University Land-I, 200 feet north and 990 feet east of SW cor. SE of Section 47, Block 30, University Land.

Carl Cromwell and others' No. 7 University land, 200 feet north and 330 feet west of SE cor. of SW Section 47, Block 30, University land. Humble Oil & Refining Co.'s No. 10 University land, 990 feet south and east of NW cor. of SW of Section 38, Block 30, University land. Landreth Production Corp.'s No. 6 State land, 200 feet south and 2,970 feet east of SW cor. of Section 47, Block 30, same land and located in Jox Cowden Survey, No. 10, Block J-C. Tidal Oil Co 's No. 1 University Land-I, 200 feet north and 330 feet east of SW cor. SE of Section 47, Block 30, University Land.

Crockett County

Young & Donnelly's No. 1 J. M. Shannon, center of Section 9, Block 9, D. & S. E. Survey.

Eastland County

J. E. Lewis and others' No. 2 B. L. Hargus, 150 feet south and west of NE cor. of B. L. Hargus' 85-acre tract out of Section 3, Block 6, E. T. R. R. Survey; No. 1 Mrs. O. C. Holcomb, 250 feet north of T. & P. R. W. and 1,430 feet west of the east line of J. House Survey. Morrison & Everly's No. 1 T. C. Harrell, 200 feet north and east of SW cor. of T. C. Harrell's 200-acre tract out of Section 6, Block 6, E. T. R. R. Survey. C. C. Dodson & R. P. Rankin's No. 1 M. E. Code, 1,470 feet south and west of NE cor. of M. E. Code's 740-acre tract out of J.

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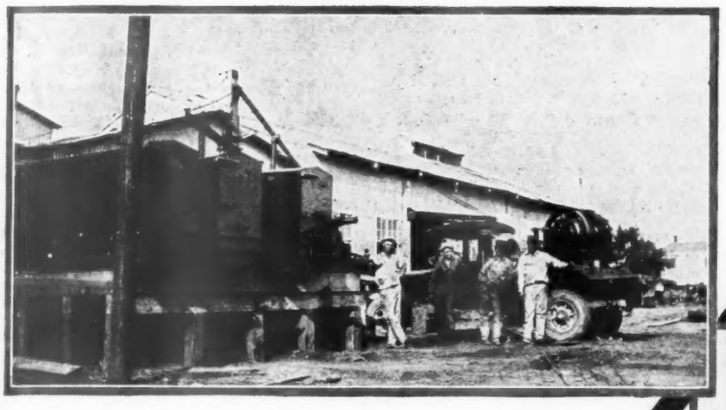

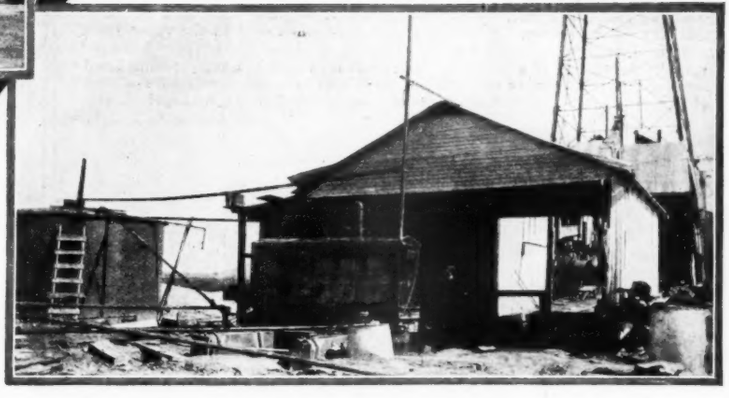

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Roberts Survey. Leon Oil Co.'s No. 1 T. J. Morris, 150 feet north and east of SW cor. of the E half of SE of Section 12, Block 12, Block 3, H. & T. C. Survey. Wentz Oil Corp.'s No. 1 M. M. Cooper, 1,320 feet south and 200 feet west of NE cor. of Section 121, Block 3, H. & T. C. Survey.

Ed Parsons and others' No. 1 W. A. Love, 330 feet south and 500 feet east of NW cor. of Lot 1, Middle Subdivision, T. A. Howell Survey.

Ector County

Shaup and others' No. 1 C. P. Davis, C NE NE, Section 16, Block 42, Tp-3-S, T. & P. Survey.

Fisher County

Miley Oil Corp. and Marland Oil Co.'s No. 1 W. W. Ammons, center of the S half of Section 198, Block 3, H. & T. C. Survey.

The Texas Company's No. 1 D. W. Stephens, 330 feet north and 990 feet west of SE cor. of Section 79, Block 1, H. & T. C Survey.

Foard County

The Texas Company's No. 1 H. J. Watkins, 1,000 feet north and east of SW cor. of George Armstrong Survey.

Gains County

Westheimer & Daube's No. 1 Birge & Forbes Land Co., 660 feet south of the middle of the north line of League 308, Terrell County School Land,

Haskell County

Subbie Oil Int.'s No. 1 J. F. Jetter, 1,420 feet south and 1,320 feet east of NW cor. of Section 53, Block 1, H. & T. C. Survey.

Howard County

Fred Carey's No. 1 Otis Chalk, 330 feet south and west of NE cor. SE SW of Section 124, Block 29, W. & N. W. Survey.

Magnolia Petroleum Co.'s No. 5 Mary Chalk, 2,440 feet south and west of NE cor. of Section 124, Block 29, W. & N W. Survey; No. 5 O. Chalk-Sloan, 1,000 feet south and 1,650 feet east of NW cor. of Section 114, Block 29, same survey; No. 4, 250 feet south and 1,962 feet east of NW cor. of Section 114, Block 29, same survey.

Jones County

Phillips Petroleum Co.'s No. 1 H. B. Vestel, 2,310 feet north and 2,400 feet west of SE cor. of Section 18, Block 19, T. & P. Survey.

Knox County

The Texas Company's No. 1 J. O. Bowden, 340 feet north and 1,150 feet east of SW cor. of north 145 acres of east 320 acres of Section 115, Block 45, H. & T. C. Survey.

Montague County

Campbell & Wanderer Oil Co.'s No. 1 N. B. Haralson, 960 feet north and 150 feet west of SE cor. of H. B. Haralson's 117-acre tract out of G. W Howard Survey, A-481. Continental Oil Co.'s No. 1 J. E. Crowe and others, 150 feet south and east of NW cor. of north 20 acres of J. E. Crowe and others' 100-acre tract out of John Chambliss Survey, A-123. Pure Oil Co.'s No. 5 J. E. Crowe and east of SW cor. of J. E. Crowe and others' 100-acre tract out of John Chambliss Survey, A-123

Motley County

Exploration Co.'s No. 1 Burleson, C of NE of I. E. Martin Survey, No. 3; No. 1 Tillson, C SE of Section 35, Block T, B. S. & F. Survey.

Palo Pinto County

Dixie Drilling Co.'s No. 1 J. M. Lane, 1,000 feet south and 250 feet west of NE cor. of the N half of Section 13, Block 4, T. & P. Survey.

Pecos County

Mid-Kansas Oil & Gas Co.'s No. 2 I. G. Yates-B, 1,320 feet north and east of SW cor. of Section 61, Block 1, I. & G. N. Survey.

Reagan County

Henshaw & Camp's No. 1 University Land, 1,320 feet north and east of SW cor. of Section 14, Block 48, University Land.

Runnels County

Noble Oil Co.'s No. 1 D. E. Simms, C S half of Section 12, J. J. McHenry Survey.

Sterling County

Inland Oil Co.'s No. 1 D. C. Durham, 150 feet north and 400 feet west of SE cor. of Section 12, Block T. T. & P. Survey.

Taylor County

Sanger Oil & Refining Co.'s No. 1 Stem, 150 feet north and east of SW cor. of north 160 acres of east 320 acres of Section 10, Lunatic Asylum Lands.

Brown Production Co 's No. 1 J. C. Henslee, 150 feet south and west of NE cor. of Burr & Caswell Survey, No. 5.

Throckmorton County

Reiter-Foster Oil Corp.'s No. 4 V. A. Parrott, C NE NW Section 971, T. E. & L. Survey.

Upton County

Humble Oil & Refining Co.'s No. 5 R. Ricker, 2,310 feet SW of the NE line and 4,610 feet SE of the NW line of M. S. Denton Survey, No. 5, A-127.

Wichita County

A. T. Wolfe & Son's No. 2 R. Mitschke and others, 1,910 feet south and 150 feet east of NW cor. of Section 13, League 4, Denton County School Land, A-417. Beavers Drilling Co.'s No. 1 Mrs. R. C. Chilton, 760 feet north and 150 feet west of SE cor. of north 120 acres of Mrs. R. C. Chilton's 160-acre tract out of John W. Campbell Survey, A-388. John O'Neil's No. 2 W. H. Chilson, Section 8, 200 feet north and 150 feet east of SW cor. of south 40 acres of west 80 acres of Section 8, League 4, Denton County School Land, A-417. Shappell Oil Co.'s No. 8 Kemp & Kempner-A, 450 feet north and west of SE cor. SW of Section 18, Kemp's Wichita Valley Lands. C. W. Wallace. No. 3 E. L. Burnett, 265 feet south and 195 feet west of NE cor. NE of T. L. Burnett's 1,348-acres tract out of James Bradford Survey, A-27. Wilson Drilling Co. and others' No. 2 Kemp & Kempner 150 feet north and 200 feet east of SW cor. SE of Section 57, Kemp's Wichita Valley Lands.

Underwood Drilling Co.'s No. 1 J. L. Schnakenberg, 150 feet north and west of SE cor. of J. L. Schnakenberg's 150-acre tract out of F. W. Huseman Survey, A-95. A. T. Wolfe and others' No. 1 B. N. Nitschke and others, 355 feet south and 150 feet east of NW cor. of Section 13, League 4, Denton County School Land, A-417. C. H. Clark and others' No. 4 W. T. Waggoner, 150 feet south and 4,060 feet east of NW cor. of Section 33, Block 5, H. & T. C. Survey, being 150 feet south and 450 feet west of NE cor. of their lease. Petroleum Producers Co.'s No. 1 S. I. and H. M. Munger, 150 feet south and 1,180 feet east of NW cor. of Section 31, Kemp's Wichita Valley Lands The Texas Company's No. 327 W. T. Waggoner, 215 feet south and 960 feet west of NE cor. of S. Holloway Survey, A-533; No. 328, 4,010 feet south and 690 feet east of NW cor. of Section 1, Seale & Morris, A-393; No. 329, 330 feet north and 560 feet east of the most southerly SW cor. of Section 1, Seale & Morris, A-393.

Wilbarger County

Golding, Cochran & Marland Oil Co.'s No. 1 W. T. Waggoner, 150 feet north and 1,170 feet west of SE cor. of Section 107, Block 14. H. & T. C Survey.

Fain-McGaha Oil Corp.'s No. 1 W. T. Waggoner-K, Common Center of Sections 11, 12, 20 and 21, Block 13, H. & T. C. Survey. Milham Corp.'s No. 17 W. T. Waggoner-B, 450 feet south and 1,695 feet west of NE cor. of their lease "B" Section 31, Block 4, H. & T. C. Survey.

Winkler County

Independent Oil & Gas Co.'s No. 2 T. G. Hendricks-A, 330 feet south and west of NE cor. of the W half of SW Section 34, Block 5-B, Public School Land.

Wise County

Winemiller Oil Co.'s No. 1 Hattie Beall, 695 feet south and 2,915 feet east of SW cor. of B. B. B. & C. Survey and located in Sam Worthington Survey.

Young County

C. W. Boller and others' No. 3 L. F. Gragg, 150 feet south and 450 feet east of NW cor. of south 45 acres of north 90 acres of west 175 acres of A. Rohus Survey, A-240. J. J. Moran's No. 1 L. F. Gragg, 150 feet north and east of SW cor. of north 45 acres of west 175 acres of the same survey. Roxana Petroleum Corp.'s No. 4 Mrs. S. I. Payne and others,

(Continued on Page 161)

No Defects Can Survive the Forging Hammer

And no high pressures will ever find a weak spot in the new Darling *Forged Steel* Drilling Gate Valve, for it's made from the same metal and by the same process as the finest tools and high-speed machine parts.

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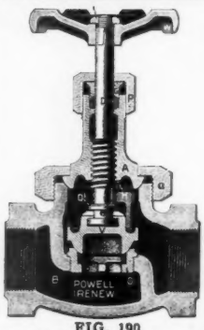

FIG. 190
Globe Valve for 150 and X. H. 250 pounds W. S. P. Sizes ¼ to 3-inch.

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PUMPS

NAVIGATOR MADDEN'S THRILLING VOYAGE IN THE GOOD SHIP FORD

"Salvaging" Ford, etc. $8.50

When Paul Madden, scouting east Texas for the Republic Production Co. back in '23 sent that item in his expense account to Chief Scout Jerry Raisch he knew what would happen in Jerry's office if plans and specifications did not accompany the item.

Paul had read what Elbert Hubbard had written about explanations: "Never explain," said Fra Elbertus, "your friends don't require it and your enemies won't believe it," nevertheless Paul doped it out that there was an explanation coming to Jerry, friend though he was.

So, when he recovered from the experiences growing out of the $8.50 item, he sat himself down to the Underwood and got away with the following gem, which has been considered one of the high lights among excuses as to how a scout spends the company's money:

Palestine, Jan. 28, 1923
Adventures of the Deponent in Wilds of Anderson County.

Dear Jerry:

After arriving in Jacksonville and learning that it would be better to come back later regarding the well digging there I started out for the Old Testament town of Palestine.

The first 15 miles of rough terrain were negotiated fairly well by stopping every once in a while and figuring out the proper trail a la Kit Carson, finally bogged down in a bottom for sure. One nigger, two weak mules, a colored youth and a bum chain finally extricated Mr. Ford's well known vehicle from the clutches of the bog and I started merrily on my way. A mile further a bridge was washed out at one end and in negotiating said bridge the rear right wheel slipped down two large feet—Curtains.

However, after breaking down and sobbing a few sobs, also straining everything including my spleen, lo and behold ye, over the hill comes the same two niggers who, with the help of three Caucasian children of the neighborhood who had been making derisive gestures in the shape of wiggling the thumb and index finger of the right hand to their noses to show their contempt of a city slicker who would drive a Ford through that country, I managed to get Spark Plug on terra firma—total cost two smackers.

Again wending my way and the shades of evening falling fast, although there was no one with "a banner with the strange device," I was informed that a certain hill was impassable, detoured, for I do not know how long until I came to a large wandering stream, locally known as a drain, but if it was a drain, it drained half Texas.

Getting out and studying the situation, as to whys and wherefores I decided to take a chance through the woods, I went around but not through, and Mr. Whoopee gave a grunt and settled down, apparently for the evening.

The well known succor, who appears to all stranded travelers not being in sight and no houses for several miles back, like Davy Crockett, I had to be sure I was right and then go ahead.

It was now dark and the wealthy oil man, Mr. Madden of Lufkin, started out to seek what fiction writers would call "succor." However, the creek had to be navigated first and navigate is a weak word. It had to be waded and believe me when that icy water rose up to my hocks it looked like a tough night for Mr. Madden's handsome son—the one that "works for the oil company." Finally I arrove at a Southern Mansion and the planter consented to drive me down and help me out while his family awaited his return, they being all dressed up in their boughten clothes to go to a dramatic entertainment at the Crossroads store, entitled, I believe, "The Burning Stump."

We hooked up to the whoopee and dragged same back to where I started on the far side of the creek. He then set me right to follow the ruts made by the mail carrier whom it seems goes through the creek like a duck. I did so, but it also seems they have a mud hole for transients and tourists and the Ford hit that and foundered. The water, same temperature as before, came touring through the gearboard strake and also over the gunwales. Hastily salvaging the family jewels, the trusty Underwood, and the well known maps of East Texas Counties, I pulled for the shore.

Another consultation, that took as much deep thinking as the building of the Galveston sea wall. The planter hooked up again, I doing the hooking as I was already wet and we, or at least the mules, took a strain. They also took half the chain with them and the whoopee still remained calm, right running board under water and presumably the battery totally submerged. Calling it a day, although it was after eight, we went to the planters Southern Mansion. The folks had gone to the entertainment and I went to the fire. As it was only a question of following the ruts the first time and being impatient to get away, I paid the gentlemen two iron men and still hoped to get out the next day if I was lucky, without building a coffer dam.

I had a change of shoes and socks and trousers but no under pretties so I had to stag what I had on by cutting them below the knee with a rusty knife and as Harry Lauder used to sing; "They like me with my trousers on but they love me in my kilts."

After a slight repast of chickory and roofing cement which was called after the French term, coffee, which kept me up half the night, I went to seek repose, I got some when the wind, blowing through the Colonial style slabs that composed the walls of this mansion, quieted down. The coffee was great—served in the peculiar style in which they liked it, but the style was new to me—no sugar, no milk, no eggs, no meat, but a generous helping of hot biscuits and a sort of white gravy used by bill posters on fences and boards. Outside of these few drawbacks I suppose you could call it a repast, or perhaps a collation would be better.

After another repast along the same lines, arose at 6:00 a. m. In the meantime, I had informed Palestine's famous geologist and deep thinker M. A. Davey of my plight and was doubtful of the whoopee being able to move after the night's submersion and he promised to come after me.

At the creek the whoopee lay there like the wreck of the Hesperus. More wading in the icy water and believe me the water was just as cool in the morning as it had been the night before and my pastern and stifle joints were numb. However, after all the family and the family mules got down and tugged from the beach, Mr. Whoopee came out and started off like a new Ingersoll watch which gave me much joy. The planter "accepted" five bucks for hauling, entertainment, lodging etc., for him and his family, cost of entering Anderson County, eight and a half smackers. He was so hospitable that I almost stayed to lunch as they were to have turnip greens juicened with salt pork, of the fat variety.

On the way in I was met by my colleague Mr. Davey and we triumphantly entered Palestine. The only damage being that the whoopee refused to run on the magneto.

It has started raining again and if it keeps up much longer, I will either have to calk the Ford and put on a leg of mutton sail or a yawl rig and sail it out of Anderson County. They are to have fine roads here soon, that is, in 18 or 28 years so it will not be so bad after a while. This is Monday morning and after two hot baths, some of M. A. Davey's Salt Dome Elixir I still squeak in the joints and as Yoshimura Toga says,

Hoping you are the same,

I remain as ever,
Sinbad the Sailor,
MADDEN.

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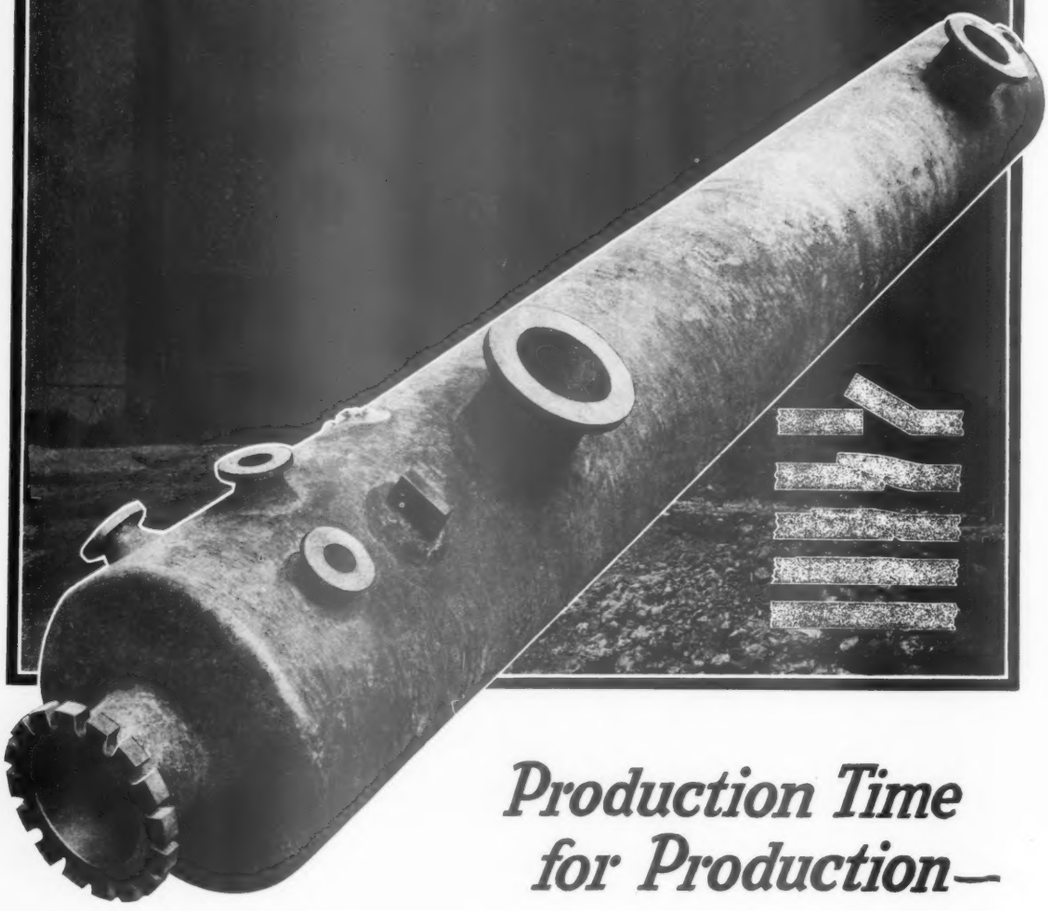

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St. Louis, Mo.

GLAUCOSIL AS A PURIFICATION AGENT

(Continued from Page 142)

fact that its production in the United States has increased from 39,000 tons of a value of $370,000 in 1913, to 207,000 tons of a value of $2,924,000 in 1925. During the same period, imports declined from 19,000 tons, valued at $146,000 to 8,000 tons valued at $111,000.

While American production is centered in the states of Georgia, Texas and Florida, those three states producing 85 per cent of the total—in 1925 there were 14 operators in these and the additional states of Illinois, Massachusetts, California and Nevada. The average value was $14.15 per ton.

In Florida, fuller's earth is mined by open pit methods and after drying is ground, screened, sacked, labeled as to fineness and is then ready for market.

The price of fuller's earth will doubtless determine that at which glaucosil will be obtainable as a substitute, assuming that the latter is no better than the former. That the price of glaucosil can be adjusted to demand may be confidently concluded from the fact that it is only one of several products sharing a moderate manufacturing cost and unlike fuller's earth does not have to carry the entire burden alone. It is produced in a region provided with excellent water and rail transportation facilities and accessible to many important industrial centers. It therefore should reach its market without having acquired a heavy burden of transportation charges.

On the whole, it seems not too much to conclude that glaucosil, in view of its efficacy as a decolorizing, purifying and adsorbent agent, both in liquid and gaseous media, the economic advantage it holds as a by-product of other manufacture, the strategic geographical situation of the deposits from which it is derived and their inexhaustible nature, is destined to play a highly useful if not important role in the petroleum and other industries where such reagents are employed.

NEW LOCATIONS

(Continued from Page 156)

200 feet north and east of SW cor. of W. E. Smith Survey, A-1,752. Ruthada Oil Co.'s No. 6 E. C. Stovall, 150 feet north and west of SE cor., Lot 31, E. C. Stovall Subdivision of James Tobin Survey, A-279. Shaw & Ratke's No. 1 C. C. Thedford, 1,408 feet NE of the south corner and 250 feet NW of SE line of S. Barett Survey, A-1,580.

Cole and others' No. 1 W. A. Craig, 150 feet north and east of SW cor. of Section 402, T. E. & L. Survey. Ginsburg and others' No. 1 Mrs. J. M. Keen, 150 feet north and west of SE cor. of north 50 acres of south 155 acres of Mrs. J. M. Keen's 310-acre tract out of Galv. Br. & Nav. Co. Survey, No. 4, A-119. Golding-Cochran and others' No. 1 J. W. Cox, 150 feet south and 450 feet east of NW cor. of the E half of Section 18, Young County School Land, A-1,284. Halbrook & Woods' No. 1 J. W. Davis, 750 feet north and 450 feet west of SE cor. of west 50 acres of the S half of Section 1,395, T. E. & L. Survey. Madden and others' No. 1 S. M. J. Benson-A, 750 feet north and east of SW cor. of Section 1,482, T. E. & L. Survey. Panhandle Refining Co.'s No. 8 O. W. Mathews, 1,050 feet south and 450 feet east of NW cor. of their 15-acre lease out of A. Rohus Survey, A-240; No. 9, 750 feet south and 900 feet east of NW cor. of their same 75-acre lease; No. 10, 1,050 feet south and 150 feet east of NW cor. of their same 75-acre lease. Tidwell & Dorsey's No. 1 T. G. Gray, 150 feet north and west of SE cor. of Section 189, T. E. & L. Survey. Wichita Production Co.'s No. 1 W. B. Chaves, 150 feet south and 775 feet west of NE cor. of H. B. Akler Survey, A-5. Atkinson & Sandefer's No 2 W. T. Donnell, 6,300 feet north and 500 feet west of SE cor. of Section 1,111, T. E. & L. Survey, and located in Roxana Petroleum Corp.'s lease; No. 3-A, N. M. Ford, 5,450 feet

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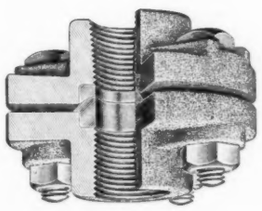

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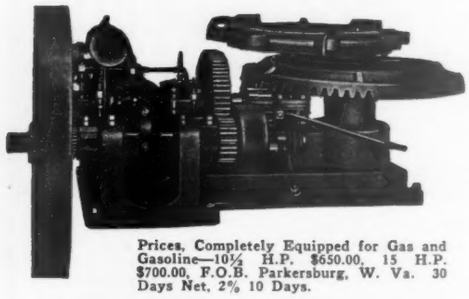

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WRITE FOR PRICES BEFORE PURCHASING ELSEWHERE

north and 150 feet east of SW cor. of W. T. Carter Survey, A-62.

Corrected Locations

In Archer County—George L. Pace and Nelson Holding Co.'s No. 5. J. B. Miller-B, 450 feet north and west of SE cor. of the N half of Lot 2, Section 21. A. T. N. C. L. Survey.

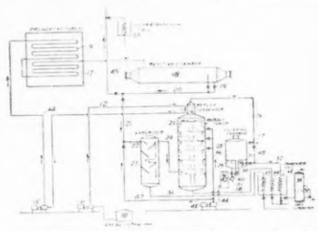
In Eastland County—Simms Oil Co.'s No. 1 J. Lyerla, 330 feet north and east of SW. cor. SE SW Section 25, Block 2, H. & T. C. Survey.

In Foard County—Fain-McGaha Oil Corp. and others' No. 1 J. F. Mathews, 900 feet north and 150 feet east of SW cor. of east 80 acres of north 160 acres of south 320 acres of Section 3, G. C. & S. F. Survey.

In Young County—Olney Production Co.'s No. 2 S. B. Kemp, 750 feet north and west of SE cor .of their 65-acre lease out of Section 401, T. E. & L. Survey.

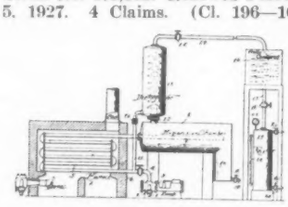
Recent Patents

1,624,692. Process of Maintaining Gasoline. Henry Thomas, Ridley Park, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a Corporation of New Jersey. Filed August 12, 1925. Serial No. 49,702. 3 Claims. (Cl. 196—96.)



2. The process of producing decolorized gasoline which comprises releasing the pressure on cracked hydrocarbon that is largely in a liquid phase and under high pressure and contains a substantial proportion of gasoline and allowing a predominating proportion of the liquid hydrocarbons to vaporize within an expanded space, the vapor within said space containing said gasoline and heavier hydrocarbons, separating out the minor portion of the hydrocarbons in a liquid condition, subjecting a flowing stream of such vapor to partial condensation and intimately mixing vapors of the flowing stream with the condensate of the same stream, thereby effecting separation from the hydrocarbon of higher boiling constituents with resultant partial purification of the gasoline vapors, filtering the uncondensed vapors of the flowing stream of hydrocarbon through a body of a decolorizing material, maintaining such temperature of filtration as will permit a portion of the vapors to condense, and condensing the decolorized vapors that are uncondensed in the body of decolorizing material.

1,627,164. Apparatus for Treating Oils. Gustav Egloff, Chicago, Ill., and William R. Howard, Washington, D. C., assignor to Universal Oil Products Company, Chicago, Ill., a Corporation of South Dakota. Filed June 8, 1921. Serial No. 475,862. Renewed February 5. 1927. 4 Claims. (Cl. 196—107.)



4. In an oil distilling apparatus, an enlarged reaction chamber, a closed means for conveying heated oil substantially completely through the same, said means permitting the discharge of the heated oil into the chamber at a point remote from that at which said closed means enters the reaction chamber, said chamber being provided with a downwardly extending enlarged portion adjacent the point of discharge of the oil from said closed means into said reaction chamber, a vapor outlet leading from the

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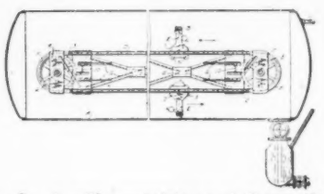
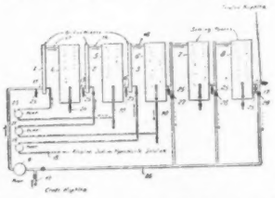
reaction chamber at a point remote from said enlarged portion and condensing means in communication with said vapor outlet.

1,624,083. Carbon-Removing Mechanism for Stills. James M. Wadsworth, Fort Worth, Tex. Filed December 27, 1921. Serial No. 525,171. 5 Claims. (Cl. 196—122.)



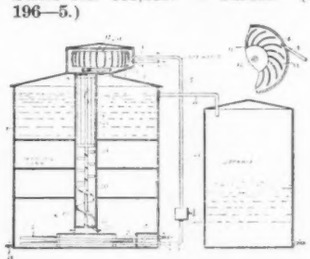
2. A still, comprising a shell provided adjacent one end with an outlet through which sediment can be removed, a scraping device arranged inside of said shell for removing sediment from the bottom of same and discharging the sediment through said outlet, an endless flexible element in said shell for actuating said scraping device, a supporting structure in said shell arranged longitudinally of same with one of its portions in substantially fixed relation with the shell and its opposite end portion free to move longitudinally and also laterally with relation to the shell, and rotatable elements arranged adjacent the opposite ends of said supporting structure around which said flexible element travels.

1,627,338. Refining Oils. Harrison Oaks Parker, Tulsa, Okla., assignor to The Mathieson Alkali Works, New York, N. Y., a Corporation of Virginia. Filed June 18, 1925. Serial No. 37,888. 5 Claims. (Cl. 196—42.)



3. An improved method of refining hydrocarbon oils, which comprises flowing a stream of the oil through a succession of mixing and settling operations, supplying an alkaline aqueous solution of hypochlorite to one of the mixing operations wherein the hypochlorite is in part consumed, separating the resulting aqueous solution from the oil in the succeeding settling operation, supplying the resulting aqueous solution relative increased alkalinity to a mixing operation preceding that to which the aqueous solution is first supplied, and separating the aqueous solution from the oil in the succeeding settling operation.

1,627,072. Process of Treating Impure Crude Oil. John F. Wright, El Dorado, Ark. Filed January 26, 1924. Serial No. 688,633. 2 Claims. (Cl. 196—5.)



1. The process of treating impure petroleum to relieve it of its impurities comprising spraying and atomizing the impure oil against the rotatable member, spring hot water into contact with said atomized oil, agitating said mixture and passing the same through a series of vertically arranged chambers where the oil and water may separate by gravity and drawing off the oil.

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for April

Company—	Month	Daily Av.
*Prairie P. L. Co.	4,380,000	146,000
Gulf P. L. Co.	1,583,963	52,799
Texas P. L. Co.	941,632	31,388
Magnolia Pet. Co.	1,562,069	52,069
Cosden P. L. Co.	1,078,448	35,948
*Sinclair P. L. Co.	2,490,000	83,000
Empire P. L. Co.	1,041,497	34,717
*Other lines	12,720,000	424,000
Total April	25,797,609	859,921
Total March	26,152,714	843,636
Difference	355,105	16,285

Shipments

†Prairie P. L. Co.	5,484,826	182,827
Gulf P. L. Co.	1,288,099	42,936
Texas P. L. Co	645,712	21,528
Magnolia Pet. Co.	1,286,241	42,875
Cosden P. L. Co.	954,712	31,824
†Sinclair P. L. Co.	2,537,233	84,574
Empire P. L. Co.	1,177,622	39,254
*Other lines	11,400,000	380,000
Total April	24,774,454	825,818
Total March	24,880,289	802,589
Difference	115,835	23,229

Stocks

*Prairie Oil & Gas Co.	30,000,000
*Prairie P. L. Co.	2,000,000
Gulf P. L. and Gypsy Oil Co.	8,257,305
The Texas Company	4,248,791
Magnolia Pet. Co.	4,833,023
Cosden P. L. Co.	2,446,239
*Sinclair Crude Oil Pur. Co.	19,400,000
Empire P. L. Co.	2,695,213
Carter Oil Co.	14,657,522
*Other lines	10,500,000
Total April	99,083,093
Total March	96,459,101
Difference	2,623,992

*Estimated. †Prairie Pipe Line shipments include Texas crude and Sinclair Pipe Line shipments include Wyoming and Texas crude. Note—Stocks do not include approximately 3,500,000 bbls. of crude oil held in storage on private tank farms and leases and approximately 2,500,000 bbls. of Texas Panhandle crude in storage in Oklahoma and Kansas.

EASTERN PIPE LINES

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for March and April:

	Mar. '27	Apr. '27
Nat. Transit	163,378.73	154,870.84
S. W. Pa. P. L.	100,592.96	88,641.89
Eureka P. L.	416,053.14	384,040.85
Buckeye P. L. (Macksburg)	360,086.67	330,728.39
Buckeye P. L. (Cleveland)	12,262.69	11,229.68
Buckeye P. L. (Lima, etc.)	126,642.07	117,721.95
Indiana P. L.	10,472.58	10,277.07
Cumberland P. L.	276,896.95	257,132.67
N. Y. Transit	24,065.99	22,203.37
Tidewater P. L.	189,659.31	178,148.47
Pure Oil	175,516.93	167,608.74
Emery P. L.	57,577.05	54,707.36
Paragon Dev.	29,944.63	27,120.07
Pittsburgh P. L.	5,324.14	6,667.22
Stoll Ref.	12,195.78	.....
Total	1,960,669.62	1,810,098.57
Daily average	63,247.41	60,336.60

Note: Indian Refining Co. also reported other receipts of 320,788.98 bbls. Paragon Refining Co. had other receipts of 114,946.43 bbls. Paragon Development had other receipts of 1,682.19 bbls. Pure Oil had other receipts of 9,751.43 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for March and April:

	Mar. '27	Apr. '27
Nat. Transit	371,407.93	291,282.87
S. W. Pa. P. L.	394,577.29	358,167.37
Eureka P. L.	186,306.27	166,326.49
Buckeye P. L. (Macksburg)	162,229.20	170,657.32
Buckeye P. L. (Cleveland)	1,218.35	975.08
Buckeye P. L. (Lima, etc.)	851,500.60	945,498.20
Indiana P. L.	995,741.13	963,978.82
Cumberland P. L.	128,346.83	125,745.62
N. Y. Transit	97,577.19	164,631.87
Northern P. L.	161,689.55	181,685.31
Tidewater P. L.	108,290.33	118,938.50
Pure Oil	158,078.86	181,289.58
Emery P. L.	55,643.19	56,289.21
Paragon Ref.	103,362.66	113,995.67
Indian Ref.	329,602.47	331,923.45
Paragon Dev.	35,811.95	30,782.89
Pittsburgh P. L.	5,715.31	5,626.88
Total	4,147,099.11	4,206,795.53
Daily average	133,777.39	140,226.52

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky, at the close of March and April were as follows:

	Mar. '27	Apr. '27
Nat. Transit	987,165.64	1,122,327.78
S. W. Pa. P. L.	716,181.84	736,241.91
Eureka P. L.	1,438,177.29	1,429,347.79
Buckeye P. L. (Macksburg)	457,603.45	438,197.58
Buckeye P. L. (Cleveland)	41,573.95	42,148.71
Buckeye P. L. (Lima, etc.)	3,545,161.61	3,868,077.13
Indiana P. L.	592,303.39	598,145.91
Cumberland P. L.	583,281.33	587,606.67
Southern P. L.	458,081.93	421,389.46
N. Y. Transit	803,826.11	750,482.15
Northern P. L.	485,204.86	448,142.25
Pure Oil	498,169.44	495,796.06
Emery P. L.	7,599.54	6,418.11
Paragon Ref.	27,096.71	27,679.47
Indian Ref.	141,081.41	130,280.76
Paragon Dev.	8,085.46	6,239.54
Pittsburgh P. L.	3,449.67	3,773.55
Total	10,794,043.63	11,112,294.83
Increase	674,881.27	318,251.20

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of March and April, showing the gross stocks of the above fields:

	Mar. '27	Apr. '27
Pennsylvania	3,731,445.01	3,761,619.39
Lima	810,425.15	839,740.90
Kentucky	1,067,209.97	1,143,953.67
Mid-Continent	5,041,917.37	5,269,128.72
Illinois	143,046.13	97,852.15
Total	10,794,043.63	11,112,294.83

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1924	1925	1926	1927
January	62,638	56,831	55,630	56,209
February	68,023	60,506	60,394	61,298
March	68,721	60,576	61,644	63,247
April	71,058	63,062	62,019	60,337
May	63,942	59,217	60,580	.....
June	63,230	61,270	64,131	.....
July	64,208	62,639	63,206	.....
August	59,942	59,686	61,815	.....
September	62,930	62,510	64,639	.....
October	64,976	60,995	62,704	.....
November	56,282	59,350	61,774	.....
December	55,814	57,974	58,755	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1924	1925	1926	1927
January	145,518	157,889	156,056	141,227
February	148,732	160,863	159,488	138,534
March	147,098	154,591	150,239	133,777
April	147,611	151,429	152,371	140,227
May	134,997	146,995	160,998	.....
June	143,010	149,467	160,257	.....
July	124,187	161,338	160,945	.....
August	123,120	161,730	151,929	.....
September	127,325	156,719	158,915	.....
October	123,170	145,388	161,132	.....
November	124,400	143,582	152,668	.....
December	151,392	150,162	136,428	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1925	1926	1927
January	11,353,276	9,859,170	9,718,003
February	11,192,924	9,579,354	10,119,163
March	11,158,297	9,438,292	10,794,044
April	11,062,082	9,805,851	11,112,295
May	11,207,562	9,531,757	.....
June	11,093,796	9,585,904	.....
July	11,067,453	9,734,687	.....
August	10,974,481	9,668,947	.....
September	10,781,753	9,433,732	.....
October	11,086,850	9,269,806	.....
November	11,068,158	9,257,667	.....
December	10,458,445	9,454,512	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above.

	Runs	Shipments	Stocks
1926—			
April	3,137.40	4,519.68	12,459.02
May	2,933.29	2,096.35	13,295.96
June	3,217.62	1,655.15	14,858.43
July	3,025.86	4,075.11	13,809.18
August	2,886.59	2,121.21	14,574.56
September	2,788.18	3,373.06	13,985.68
October	2,991.86	2,307.75	14,671.25
November	2,810.60	1,664.55	15,817.31
December	2,847.52	5,561.11	13,103.72
1927—			
January	2,641.54	1,470.42	14,274.84
February	2,764.30	1,082.82	15,956.32
March	2,587.20	1,878.56	16,664.96

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks May 1	2,476,177.30
Runs from wells	542,805.62
Other receipts	131,751.18
Regular deliveries	382,195.92
Other deliveries	479,034.86

The amount of Illinois oil run by the Tidewater Pipe Co. in April was 50,420.35 bbls. and deliveries were 62,622.57 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

	Runs	Deliveries
1926—		
April	610,957.04	487,604.00
May	682,416.67	498,456.90
June	693,102.34	558,054.94
July	713,490.66	490,092.82
August	701,795.92	555,766.59
September	688,798.66	516,083.46
Ocotber	681,648.96	531,467.30
November	651,263.33	498,459.37
December	668,909.58	587,947.61
1927—	Runs	Deliveries
January	621,421.03	530,085.90
February	595,831.16	476,950.71
March	727,593.91	564,947.43
April	593,225.97	444,818.49

Tidewater Pipe Co., Ltd., also delivered in April, 191,291.56 bbls.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
January	5,097	8,258	26,290	15,932	14,807	70,355	.....	.....	.....	806	806	71,161
February	26,214	3,036	32,750	8,571	18,250	88,821	.....	.....	.....	.....	.....	88,821
March	16,616	5,484	56,710	13,871	13,419	106,097	.....	.....	.....	484	.....	106,581
April	12,667	4,367	47,667	15,100	13,300	93,100	.....	.....	.....	.....	.....	93,100

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
January	16,032	8,226	64,387	4,065	31,064	123,774	7,903	43,629	.....	4,123	55,645	179,419
February	12,000	14,429	87,286	5,321	26,714	145,750	4,786	46,786	2,143	3,607	57,322	203,072
March	4,677	13,161	63,484	9,226	26,129	116,677	6,742	36,258	2,419	4,871	50,290	166,967
April	22,700	9,033	62,033	6,067	26,567	126,400	5,067	18,033	.....	.....	23,100	149,500

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
1926—										
May:	Month	18,667,144	14,507,008	11,940,797	3,516,640	5,482,939	2,231,938	3,459,489	3,317,000	63,122,955
	Daily average	602,166	467,968	385,187	113,440	176,869	71,998	111,596	107,000	2,036,224
June:	Month	18,269,417	14,073,510	11,782,200	3,346,470	5,064,760	2,206,830	3,437,906	3,365,000	61,546,093
	Daily average	608,981	469,117	392,740	111,549	168,822	73,561	114,597	112,167	2,051,536
July:	Month	18,743,199	14,657,482	13,983,759	3,582,267	5,019,892	2,173,813	3,336,664	3,420,000	64,917,076
	Daily average	604,619	472,822	451,089	115,557	161,932	70,123	107,634	110,323	2,094,099
August:	Month	18,765,080	14,618,236	17,093,586	3,681,436	4,878,191	2,190,739	3,457,697	3,339,500	68,024,465
	Daily average	605,325	471,556	551,406	118,756	157,361	73,896	111,538	107,726	2,194,338
September:	Month	18,104,954	14,466,510	17,580,100	3,450,060	4,603,230	2,079,840	3,141,123	3,330,000	66,755,817
	Daily average	603,498	482,217	586,003	115,002	153,441	69,328	104,704	111,000	2,225,194
October:	Month	18,966,058	15,720,689	19,001,388	3,714,637	4,625,138	2,166,559	3,071,720	3,398,000	70,664,189
	Daily average	611,808	507,119	612,948	119,827	149,198	69,889	99,088	109,613	2,279,490
November:	Month	19,173,128	16,876,950	18,593,160	3,593,490	4,299,480	2,054,911	2,842,587	3,216,000	70,649,706
	Daily average	639,104	562,565	619,772	119,783	143,316	68,497	94,752	107,200	2,354,990
December:	Month	20,276,950	17,882,908	19,753,591	3,654,156	4,266,189	2,018,734	2,658,301	3,313,000	73,823,829
	Daily average	654,095	576,868	637,212	117,876	137,619	65,120	85,752	106,871	2,381,414
1927—										
January:	Month	20,184,872	19,030,745	18,546,990	3,668,323	4,076,469	1,905,570	2,610,303	3,332,500	73,355,772
	Daily average	651,125	613,895	598,290	118,333	131,499	61,471	84,203	107,500	2,366,315
February:	Month	17,982,711	19,752,348	16,483,292	3,349,416	3,574,256	1,784,104	2,385,135	3,007,200	68,318,462
	Daily average	642,240	705,441	588,689	119,622	127,652	63,718	85,183	107,400	2,439,945
March:	Month	19,836,724	22,480,921	18,417,100	3,672,849	3,853,920	1,896,425	2,466,798	3,620,800	76,244,537
	Daily average	639,862	725,191	594,100	118,479	124,320	61,175	79,574	116,800	2,459,501
April:	Month	19,466,087	22,289,160	17,800,740	3,530,490	3,378,240	1,994,739	2,615,770	3,474,000	74,549,217
	Daily average	648,870	742,972	593,358	117,683	112,608	66,491	87,192	115,800	2,484,974
Total 12 month		228,435,324	206,356,467	200,976,703	42,760,234	53,122,704	24,696,090	35,483,492	40,133,000	831,964,014
		625,850	565,360	550,621	117,151	145,541	67,661	97,215	109,953	2,279,352

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1927
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Stocks
2,459.02
3,295.96
4,858.43
3,809.18
4,574.56
3,985.68
4,671.25
5,817.31
3,103.72

4,274.84
5,956.32
6,664.96

port of
6,177.30
2,805.62
1,751.18
2,195.92
9,034.86

by the
0,420.35
7 bbls.
Illinois
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7,604.00
8,456.90
8,054.94
0,092.82
5,766.59
6,083.05
1,467.39
8,439.37
7,947.61
eliveries
0,085.98
6,950.71
4,947.43
4,818.49
vered in

Total
All Ports
71,161
88,821
106,581
93,100

Total
All Ports
179,419
203,072
166,967
143,500

Total
3,122,955
2,036,224
1,546,092
2,051,536
4,917,076
2,094,089
8,024,465
2,194,338
6,755,817
2,225,194
0,664,189
2,279,489
0,649,706
2,354,989
3,823,329
2,381,414

3,355,772
2,366,338
8,318,462
2,439,945
6,244,837
2,459,501
4,549,237
2,484,374

1,964,614
2,279,355

ENDURANCE

The newspapers said that Lindbergh undertook his glorious adventure *alone*—but, of course, the newspapers are mistaken.

How can a man be *alone* when the hopes, prayers and well wishes of a hundred million admirers accompany him? How can a man be *alone* when the entire civilized world is with him in spirit—thrilling to his thrills, sharing in his fears, glorying in his triumph?

Driving irresistibly on thru the silent, hungry darkness of an Atlantic night, Lindbergh may have been lonely, but certainly he was not *alone*.

Grit, stamina and endurance are marvelous attributes—in oil industry pumps as well as in aviators!

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Gaso Walking Beam Pump No. 604—Designed for gas or vacuum. Connects to the walking beam with either wood or pipe pittman. Will withstand world of abuse.

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